



Memorandum

March 23, 2018

To: Glenn Springs Holdings Inc.

Ref. No.: 031532

From: 
Michael Tomka/ev/2

Subject: GHD File Review, Former East Chicago Refinery, East Chicago, Indiana

As requested, GHD has reviewed our files associated with the Glenn Springs Holdings, Inc (GSH) - Former East Chicago Refinery property in East Chicago Indiana (Site). The objective of the file review was to locate any formal correspondence, and/or submissions with any agencies. In addition, the objective was also to locate any environmental assessment data, if any, associated with the Site.

1. Background

The Site is located at 2500 Rear East Chicago Avenue in East Chicago, Indiana. The land surrounding the Site is mainly industrial. The Gary Municipal Airport is located approximately 1/2 mile to the east. Lake Michigan is located approximately 3/4 miles to the northeast, and the Grand Calumet River, the nearest surface water body, is located approximately 1/2 mile to the south.

The Site covers approximately 100 acres and was mostly dismantled by the early 1980s.

2. Summary of Agency Correspondence

Based on a review of GHDs files, there was no evidence of any formal correspondence or report submissions to any agency, either state or federal. The review included the hard copy files in multiple GHD offices and also include all GHDs electronic files.

3. Summary of Assessment Data

GHD was able to location environmental data associated with the Site. For idled asset purposes to document any existing environmental conditions, GSH retained GHD to perform Site assessment activities. These Site assessment activities were completed in multiple phases from 2006 to 2011. Assessment activities primarily included the collection of soil and groundwater samples and the chemical analysis of the samples.

Soil samples were collected in 2006 and 2007. The soil sample locations are presented on Figure 1. Soil samples were analyzed for volatile organic compounds (VOCs); benzene, toluene, ethylbenzene, xylenes



(BTEX): semivolatile organic compounds (SVOCs); and metals. The majority of the soil analysis was done for BTEX. Table 1 presents the soil sample results.

Groundwater samples were collected periodically from 2007 to 2011. Groundwater samples were collected from monitoring wells and piezometers. The groundwater sample locations are presented on Figure 2. Groundwater samples were analyzed for VOCs, BTEX, SVOCs, metals, and polychlorinated biphenyls (PCBs). Table 2 presents the groundwater sample results.

Some other miscellaneous data has also been generated associated with the Site, including but not limited to waste characterization data. This other data has not been included in the memorandum but can be provided upon request. The characterization data was collected for the future potential of property sale/development.

Should you have any questions, please do not hesitate to contact us.

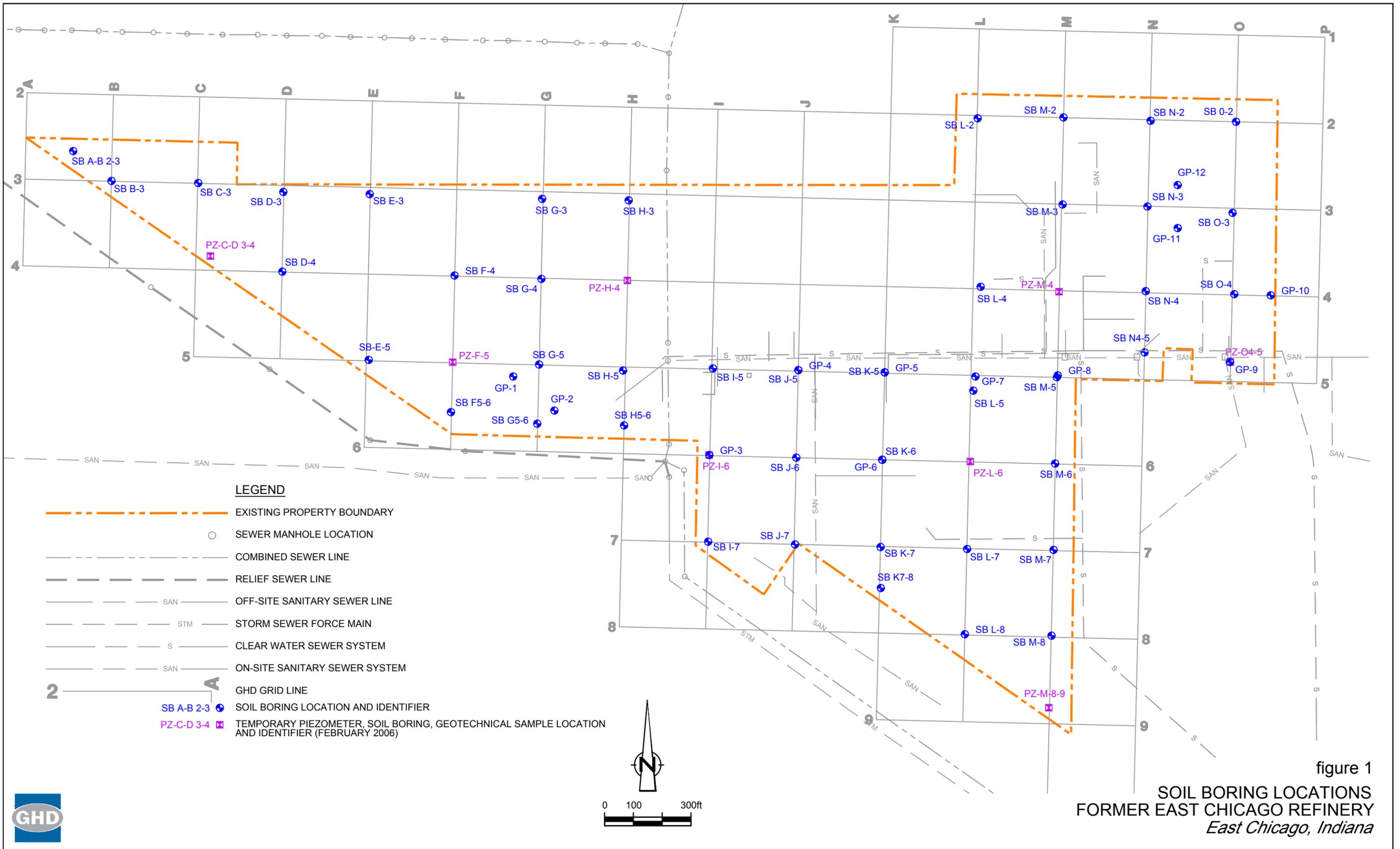


figure 1
 SOIL BORING LOCATIONS
 FORMER EAST CHICAGO REFINERY
 East Chicago, Indiana



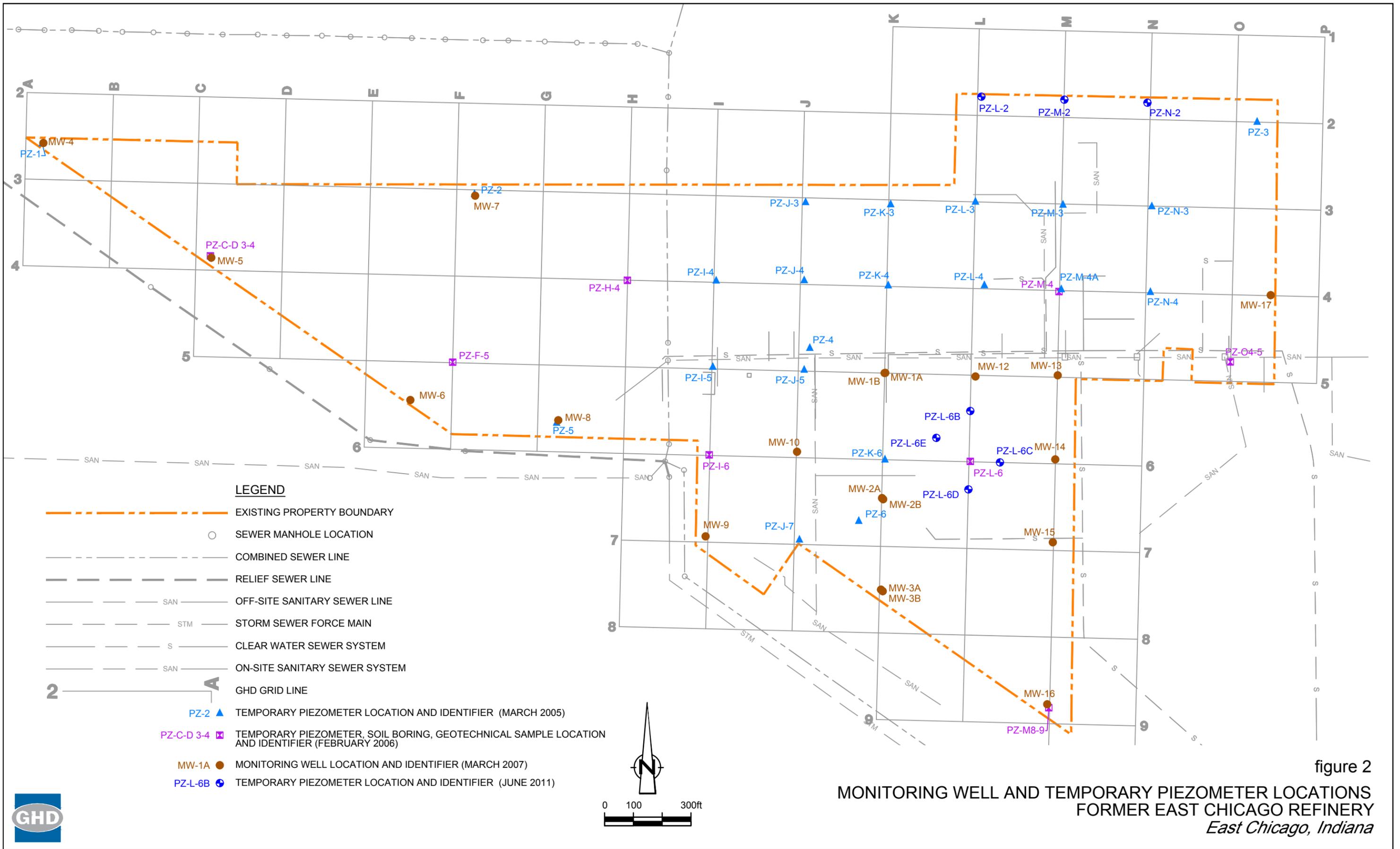


figure 2
MONITORING WELL AND TEMPORARY PIEZOMETER LOCATIONS
 FORMER EAST CHICAGO REFINERY
East Chicago, Indiana



Table 1
Analytical Results Summary - Soil
Former East Chicago Refinery

Sample Location:	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9	GP-10	GP-11	GP-12	GP-12	PZ-C-D-3-4	PZ-F-5	PZ-H-4	PZ-I-6
Sample ID:	S-032007-SP-003	S-032007-SP-002	S-032007-SP-001	S-032007-SP-004	S-032007-SP-005	S-032007-SP-006	S-032107-SP-007	S-032107-SP-008	S-032107-SP-009	S-032107-SP-010	S-032107-SP-011	S-032107-SP-012	S-032107-SP-013	S-022006-EV-002	S-022006-EV-005	S-022106-NR-025	S-022106-EV-009
Sample Date:	3/20/2007	3/20/2007	3/20/2007	3/20/2007	3/20/2007	3/20/2007	3/21/2007	3/21/2007	3/21/2007	3/21/2007	3/21/2007	3/21/2007	3/21/2007	2/20/2006	2/20/2006	2/21/2006	2/21/2006
Sample Depth:	(0-2) ft BGS	(0-2) ft BGS (Duplicate)	(2-2.5) ft BGS	(3-3.4) ft BGS	(1.1-1.6) ft BGS	(2.8-3.2) ft BGS											
Parameters	Units																
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	0.0055 U	0.0065 U	4.8 U	2.7 U	1.9 U	0.25 U	0.31 U	18 U	0.55 U	0.0059 U	3 U	3 U	1.9 U	-	-	-
1,1-Dichloroethane	mg/kg	0.0055 U	0.0065 U	4.8 U	2.7 U	1.9 U	0.25 U	0.31 U	18 U	0.55 U	0.0059 U	3 U	3 U	1.9 U	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.0055 U	0.0065 U	4.8 U	2.7 U	1.9 U	0.25 U	0.31 U	18 U	0.55 U	0.0059 U	3 U	3 U	1.9 U	-	-	-
1,2-Dichloroethane	mg/kg	0.0055 U	0.0065 U	4.8 U	2.7 U	1.9 U	0.25 U	0.31 U	18 U	0.55 U	0.0059 U	3 U	3 U	1.9 U	-	-	-
1,4-Dioxane	mg/kg	0.55 U	0.65 U	480 U	270 U	190 U	25 U	31 U	1800 U	55 U	0.59 U	300 U	300 U	190 U	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	0.022 U	0.026 U	19 U	11 U	7.7 U	1 U	1.3 U	73 U	2.2 U	0.024 U	12 U	12 U	7.7 U	-	-	-
Benzene	mg/kg	0.0055 U	0.0065 U	0.77	2.7 U	1.9 U	0.091 J	0.31 U	2.5 J	0.55 U	0.00038 J	3 U	0.81 J	0.86 J	-	-	-
Carbon disulfide	mg/kg	0.0055 U	0.0065 U	4.8 U	2.7 U	1.9 U	0.021 J	0.31 U	18 U	0.55 U	0.0059 U	3 U	3 U	1.9 U	-	-	-
Chlorobenzene	mg/kg	0.0055 U	0.0065 U	4.8 U	2.7 U	1.9 U	0.25 U	0.31 U	18 U	0.55 U	0.0059 U	3 U	3 U	1.9 U	-	-	-
Chloroform (Trichloromethane)	mg/kg	0.0055 U	0.0065 U	4.8 U	2.7 U	1.9 U	0.25 U	0.31 U	18 U	0.55 U	0.0059 U	3 U	3 U	1.9 U	-	-	-
Ethylbenzene	mg/kg	0.0055 U	0.0065 U	3.4 J	1.4 J	1.9 U	0.18 J	0.31 U	18 U	0.55 U	0.0059 U	1.7 J	3.7	3.6	-	-	-
Methyl tert butyl ether (MTBE)	mg/kg	0.022 U	0.026 U	19 U	11 U	7.7 U	1 U	1.3 U	73 U	2.2 U	0.024 U	12 U	12 U	7.7 U	-	-	-
Styrene	mg/kg	0.0055 U	0.0065 U	4.8 U	2.7 U	1.9 U	0.25 U	0.31 U	18 U	0.55 U	0.0059 U	3 U	3 U	1.9 U	-	-	-
Tetrachloroethene	mg/kg	0.0055 U	0.0065 U	4.8 U	2.7 U	1.9 U	0.17 J	0.31 U	18 U	0.55 U	0.0059 U	3 U	3 U	1.9 U	-	-	-
Toluene	mg/kg	0.0055 U	0.0065 U	0.68 J	0.17 J	1.9 U	0.19 J	0.31 U	1.3 J	0.55 U	0.00037 J	3 U	0.62 J	0.53 J	-	-	-
Trichloroethene	mg/kg	0.0055 U	0.0065 U	4.8 U	2.7 U	1.9 U	0.045 J	0.31 U	18 U	0.55 U	0.0059 U	3 U	3 U	1.9 U	-	-	-
Xylenes (total)	mg/kg	0.011 U	0.013 U	16	1.6 J	0.29 J	0.94	0.63 U	10 J	0.091 J	0.012 U	0.74 J	15	15	-	-	-
Volatile Organic Compounds - BTEX																	
Benzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.0063 U	0.0058 U	0.0057 U	1.9 U
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.0063 U	0.0058 U	0.0057 U	0.97 J
Toluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.0063 U	0.0058 U	0.00075 J	1.9 U
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	0.013 U	0.012 U	0.011 U	6.8
Semi-volatile Organic Compounds																	
1,2-Dichlorobenzene	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
1,3-Dichlorobenzene	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
1,4-Dichlorobenzene	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
2,4-Dimethylphenol	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	7 J	16 U	10 U	-	-	-
2,4-Dinitrophenol	mg/kg	77 U	9.1 U	91 U	37 U	38 U	170 U	38 U	140 U	18 U	1.8 U	100 U	77 U	49 U	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
3-Methylphenol	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
4-Methylphenol	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
4-Nitrophenol	mg/kg	77 U	9.1 U	91 U	37 U	38 U	170 U	38 U	140 U	18 U	1.8 U	100 U	77 U	49 U	-	-	-
Acenaphthene	mg/kg	1.5 J	0.046 J	18 J	0.68 J	0.51 J	2.4 J	1.1 J	23 J	3.8 U	0.016 J	23	9.4 J	5.7 J	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	2.1 J	0.53 J	4.2 J	0.54 J	0.3 J	3.3 J	7.9 U	7.8 J	3.8 U	0.043 J	6.2 J	6.3 J	3.8 J	-	-	-
Benzo(a)anthracene	mg/kg	11 J	1.9	3.1 J	0.95 J	0.7 J	10 J	0.61 J	28 J	0.09 J	0.51	6.3 J	13 J	10	-	-	-
Benzo(a)pyrene	mg/kg	9.5 J	2	3.5 J	0.76 J	0.55 J	8.1 J	0.37 J	14 J	3.8 U	0.48	4.4 J	9 J	5.9 J	-	-	-
Benzo(b)fluoranthene	mg/kg	6.9 J	1.8 J	3.8 J	0.75 J	0.44 J	6.3 J	0.41 J	15 J	0.098 J	0.71	5.1 J	11 J	8 J	-	-	-
Benzo(b)pyridine (Quinoline)	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	1.9 J	0.51 J	1.6 J	0.17 J	7.9 U	1.7 J	7.9 U	3.8 J	3.8 U	0.34 J	1.3 J	3.4 J	1.8 J	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.17 J	21 U	16 U	10 U	-	-	-
Chrysene	mg/kg	27	3.9	8.7 J	2.3 J	1.5 J	24 J	0.84 J	63	0.21 J	0.97	20 J	35	22	-	-	-
Dibenz(a,h)anthracene	mg/kg	5 J	1 J	1.6 J	0.35 J	7.9 U	2.1 J	7.9 U	5.9 J	3.8 U	0.16 J	2.3 J	2.8 J	1.8 J	-	-	-
Diethyl phthalate	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
Dimethyl phthalate	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
Fluoranthene	mg/kg	6.8 J	1.2 J	5.2 J	0.84 J	0.62 J	5.3 J	0.74 J	23 J	0.1 J	1	8.2 J	17	12	-	-	-
Fluorene	mg/kg	2.3 J	0.15 J	15 J	7.7 U	0.65 J	3.4 J	0.35 J	22 J	3.8 U	0.016 J	32	11 J	6.2 J	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	4.2 J	1.1 J	2.2 J	0.53 J	0.27 J	2.9 J	0.16 J	5.5 J	3.8 U	0.33 J	3.3 J	4.3 J	2.5 J	-	-	-
Naphthalene	mg/kg	5.5 J	0.54 J	33	0.96 J	1.6 J	3.4 J	4.3 J	29 U	3.8 U	0.017 J	5.9 J	6.5 J	3.2 J	-	-	-
Phenanthrene	mg/kg	49	5.6	60	5.6 J	3.3 J	18 J	0.59 J	110	0.1 J	0.53	74	54	30	-	-	-
Phenol	mg/kg	16 U	1.9 U	19 U	7.7 U	7.9 U	36 U	7.9 U	29 U	3.8 U	0.37 U	21 U	16 U	10 U	-	-	-
Pyrene	mg/kg	25	3.4	8.8 J	3 J	1.9 J	22 J	2.6 J	87	0.19 J	0.88	33	49	34	-	-	-
Pyridine	mg/kg	32 U	3.8 U	37 U	15 U	16 U	72 U	16 U	58 U	7.6 U	0.74 U	43 U	32 U	20 U	-	-	-

Table 1
Analytical Results Summary - Soil
Former East Chicago Refinery

Sample Location:	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9	GP-10	GP-11	GP-12	GP-12	PZ-C-D-3-4	PZ-F-5	PZ-H-4	PZ-I-6
Sample ID:	S-032007-SP-003	S-032007-SP-002	S-032007-SP-001	S-032007-SP-004	S-032007-SP-005	S-032007-SP-006	S-032107-SP-007	S-032107-SP-008	S-032107-SP-009	S-032107-SP-010	S-032107-SP-011	S-032107-SP-012	S-032107-SP-013	S-022006-EV-002	S-022006-EV-005	S-022106-NR-025	S-022106-EV-009
Sample Date:	3/20/2007	3/20/2007	3/20/2007	3/20/2007	3/20/2007	3/20/2007	3/21/2007	3/21/2007	3/21/2007	3/21/2007	3/21/2007	3/21/2007	3/21/2007	2/20/2006	2/20/2006	2/21/2006	2/21/2006
Sample Depth:	(0-2) ft BGS	(2-2.5) ft BGS	(3-3.4) ft BGS	(1.1-1.6) ft BGS	(2.8-3.2) ft BGS												
Parameters	Units																
Metals																	
Antimony	mg/kg	7.3 U	0.66 J	12.4	1.3 J	7.2 U	6.5 U	7.2 U	1.0 J	6.9 U	1.2 J	33.4	1.2 J	0.43 J	-	-	-
Arsenic	mg/kg	1.1 J	5.6	4.5	2.4	1.0 J	11.0	0.94 J	2.2	4.1	11.0	13.4	3.3	2.3	-	-	-
Barium	mg/kg	8.4 J	29.3	42.5	11.6 J	11.7 J	194	66.6	45.2	38.9	142	201	37.7	36.2	-	-	-
Beryllium	mg/kg	0.60 U	0.71 U	0.57 U	0.58 U	0.60 U	2.8	0.64	0.20 J	0.13 J	0.70	0.53 J	0.65	0.42 J	-	-	-
Cadmium	mg/kg	0.60 U	0.57 J	0.30 J	0.25 J	0.60 U	2.2	0.13 J	0.29 J	0.58 U	0.38 J	1.4	0.52 J	0.27 J	-	-	-
Chromium	mg/kg	2.6	9.2	8.0	6.7	2.6	13.1	3.1	3.5	5.6	68.5	10.9	5.0	5.2	-	-	-
Cobalt	mg/kg	1.3 J	3.3 J	2.5 J	2.6 J	1.8 J	3.7 J	1.6 J	2.0 J	2.1 J	2.9 J	4.1 J	2.3 J	2.3 J	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	23.8	60.5	87.8	25.3	13.7	86.5	23.7	36.7	14.9	167	553	190	123	-	-	-
Mercury	mg/kg	0.098 J	0.12 J	0.14	0.87	1.7	0.96	0.21	8.2	0.066 J	0.56	2.2	0.47	0.40	-	-	-
Nickel	mg/kg	11.1	13.0	5.7	11.5	3.3 J	29.6	2.9 J	5.5	4.4 J	41.9	12.8	5.7	5.2	-	-	-
Selenium	mg/kg	0.60 U	0.71 U	0.57 U	0.58 U	0.60 U	0.54 U	1.1	0.69	0.80	0.91	1.4	0.60 J	0.61 U	-	-	-
Silver	mg/kg	1.2 U	1.4 U	1.1 U	1.2 U	1.2 U	1.1 U	1.2 U	1.2 U	1.2 U	1.1 U	1.3 U	1.3 U	1.2 U	-	-	-
Vanadium	mg/kg	40.4	28.3	5.7	4.9 J	4.6 J	18.3	4.8 J	7.8	11.2	219	13.2	8.7	6.8	-	-	-
Zinc	mg/kg	34.3	158	145	90.9	31.2	320	38.4	90.0	77.2	191	576	121	79.9	-	-	-
General Chemistry																	
British thermal units (BTU)	BTU/lb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	0.60 U	0.71 U	0.57 U	0.58 U	0.60 U	0.29 J	0.26 J	1.1	0.84	0.87	5.2	0.16 J	0.61 U	-	-	-

Notes:
 J - Estimated concentration.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Analytical Results Summary - Soil
Former East Chicago Refinery

Sample Location:	PZ-L-6	PZ-M-4	PZ-M-8-9	PZ-O-4-5	SB A-B 2-3	SB B-3	SB C-3	SB D-3	SB D-4	SB E-3	SB E-5	SB F-4	SB F 5-6	SB G-3	SB G-4	SB G-5	SB G 5-6	
Sample ID:	S-022106-EV-033	S-022206-EV-046	S-022106-EV-037	S-022206-EV-049	S-022006-EV-001	S-022006-NR-011	S-022006-NR-012	S-022006-NR-013	S-022006-EV-003	S-022006-NR-014	S-022206-NR-029	S-022006-EV-004	S-022106-EV-006	S-022106-NR-016	S-022206-NR-027	S-022206-NR-030	S-022106-EV-007	
Sample Date:	2/21/2006	2/22/2006	2/21/2006	2/22/2006	2/20/2006	2/20/2006	2/20/2006	2/20/2006	2/20/2006	2/20/2006	2/22/2006	2/20/2006	2/21/2006	2/22/2006	2/22/2006	2/22/2006	2/21/2006	
Sample Depth:	(2.8-3.2) ft BGS	(2.9-3.3) ft BGS	(2.9-3.3) ft BGS	(2.5-4) ft BGS	(3-3.5) ft BGS	(2.5-3) ft BGS	(0.5-1) ft BGS	(0.8-1.3) ft BGS	(3-3.4) ft BGS	(1-1.5) ft BGS	(0.7-1.2) ft BGS	(3-3.5) ft BGS	(2.2-2.6) ft BGS	(0.5-1) ft BGS	(1.1-1.6) ft BGS	(1.1-1.6) ft BGS	(2.5-3) ft BGS	
Parameters	Units																	
Volatile Organic Compounds																		
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Dioxane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Styrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volatile Organic Compounds - BTEX																		
Benzene	mg/kg	0.0059 U	0.0059 U	0.0067 U	5.3 U	0.00092 J	0.0054 U	0.0057 U	0.0061 U	0.0067 U	0.0066 U	0.0063 U	0.0062 U	0.0063 U	0.0061 U	0.028 J	0.0063 U	0.0058 U
Ethylbenzene	mg/kg	0.0059 U	0.0059 U	0.0067 U	5.3 U	0.0066 U	0.0054 U	0.0057 U	0.0061 U	0.0067 U	0.0066 U	0.0063 U	0.0062 U	0.0063 U	0.0061 U	0.044 J	0.0063 U	0.0058 U
Toluene	mg/kg	0.0007 J	0.0059 U	0.0067 U	5.3 U	0.0015 J	0.0054 U	0.0057 U	0.0061 U	0.0067 U	0.0066 U	0.0063 U	0.00036 J	0.0063 U	0.0061 U	0.12 J	0.0063 U	0.0058 U
Xylenes (total)	mg/kg	0.012 U	0.012 U	0.013 U	0.75 J	0.013 U	0.011 U	0.011 U	0.012 U	0.013 U	0.013 U	0.013 U	0.012 U	0.013 U	0.012 U	0.34 J	0.013 U	0.012 U
Semi-volatile Organic Compounds																		
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b)pyridine (Quinoline)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pyridine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Analytical Results Summary - Soil
Former East Chicago Refinery

Sample Location:	PZ-L-6	PZ-M-4	PZ-M-8-9	PZ-O-4-5	SB A-B 2-3	SB B-3	SB C-3	SB D-3	SB D-4	SB E-3	SB E-5	SB F-4	SB F 5-6	SB G-3	SB G-4	SB G-5	SB G 5-6
Sample ID:	S-022106-EV-033	S-022206-EV-046	S-022106-EV-037	S-022206-EV-049	S-022006-EV-001	S-022006-NR-011	S-022006-NR-012	S-022006-NR-013	S-022006-EV-003	S-022006-NR-014	S-022206-NR-029	S-022006-EV-004	S-022106-EV-006	S-022106-NR-016	S-022206-NR-027	S-022206-NR-030	S-022106-EV-007
Sample Date:	2/21/2006	2/22/2006	2/21/2006	2/22/2006	2/20/2006	2/20/2006	2/20/2006	2/20/2006	2/20/2006	2/20/2006	2/22/2006	2/20/2006	2/21/2006	2/22/2006	2/22/2006	2/22/2006	2/21/2006
Sample Depth:	(2.8-3.2) ft BGS	(2.9-3.3) ft BGS	(2.9-3.3) ft BGS	(2.5-4) ft BGS	(3-3.5) ft BGS	(2.5-3) ft BGS	(0.5-1) ft BGS	(0.8-1.3) ft BGS	(3-3.4) ft BGS	(1-1.5) ft BGS	(0.7-1.2) ft BGS	(3-3.5) ft BGS	(2.2-2.6) ft BGS	(0.5-1) ft BGS	(1.1-1.6) ft BGS	(1.1-1.6) ft BGS	(2.5-3) ft BGS

Parameters	Units	PZ-L-6	PZ-M-4	PZ-M-8-9	PZ-O-4-5	SB A-B 2-3	SB B-3	SB C-3	SB D-3	SB D-4	SB E-3	SB E-5	SB F-4	SB F 5-6	SB G-3	SB G-4	SB G-5	SB G 5-6
Metals																		
Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Chemistry																		
British thermal units (BTU)	BTU/lb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

- J - Estimated concentration.
- U - Not detected at the associated reporting limit.
- UJ - Not detected; associated reporting limit is estimated.

Analytical Results Summary - Soil
Former East Chicago Refinery

Sample Location:	SB H-3	SB H-5	SB H 5-6	SB I-5	SB I-7	SB J-5	SB J-6	SB J-6	SB J-7	SB K-5	SB K-6	SB K-7	SB K 7-8	SB L-2	SB L-4	SB L-4	SB L-5	
Sample ID:	S-022106-NR-017	S-022206-NR-062	S-022106-EV-008	S-022306-EV-057	S-022206-EV-045	S-022306-EV-056	S-022106-EV-010	S-022106-EV-031	S-022206-EV-044	S-022306-EV-055	S-022106-EV-032	S-022206-EV-043	S-022206-EV-042	S-022306-EV-066	S-022306-EV-058	S-022306-EV-059	S-022306-EV-054	
Sample Date:	2/21/2006	2/22/2006	2/21/2006	2/23/2006	2/22/2006	2/23/2006	2/21/2006	2/22/2006	2/22/2006	2/23/2006	2/21/2006	2/22/2006	2/22/2006	2/23/2006	2/23/2006	2/23/2006	2/23/2006	
Sample Depth:	(1.2-1.7) ft BGS	(1.6-2.1) ft BGS	(2.6-3.1) ft BGS	(2.9-3.3) ft BGS	(2.9-3.3) ft BGS	(2.4-2.8) ft BGS	(3-3.5) ft BGS	(3-3.5) ft BGS (Duplicate)	(3-3.4) ft BGS	(2.5-3) ft BGS	(2.8-3.2) ft BGS	(2.9-3.3) ft BGS	(2.8-3.2) ft BGS	(0.6-0.9) ft BGS	(2.8-3.2) ft BGS	(2.8-3.2) ft BGS (Duplicate)	(2.6-3) ft BGS	
Parameters	Units																	
Volatile Organic Compounds																		
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Dioxane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Styrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volatile Organic Compounds - BTEX																		
Benzene	mg/kg	0.31 U	0.006 U	0.006 U	0.25 J	0.27 J	0.27 J	0.006 U	0.0057 U	0.025 J	1.2 UJ	1.6 J	0.076 J	0.58 U	0.8 UJ	0.0063 UJ	0.0061 UJ	0.36 J
Ethylbenzene	mg/kg	0.31 U	0.006 U	0.006 U	5 J	3.7	1.3 J	0.006 U	0.0057 U	0.033 J	0.17 J	7.1	1.3	0.58 U	0.8 UJ	0.0063 UJ	0.0061 UJ	0.91 J
Toluene	mg/kg	0.31 U	0.006 U	0.006 U	0.82 J	0.26 J	0.33 J	0.006 U	0.0057 U	0.036 J	0.17 J	0.42 J	0.044 J	0.58 U	0.078 J	0.0063 UJ	0.0061 UJ	0.18 J
Xylenes (total)	mg/kg	0.63 U	0.012 U	0.012 U	8 J	1.9 J	3.1 J	0.012 U	0.0019 J	0.58 J	3.3 J	16	2.4	1.2 U	1.6 UJ	0.013 UJ	0.012 UJ	2.7 J
Semi-volatile Organic Compounds																		
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b)pyridine (Quinoline)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pyridine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Analytical Results Summary - Soil
Former East Chicago Refinery

Sample Location:	SB H-3	SB H-5	SB H 5-6	SB I-5	SB I-7	SB J-5	SB J-6	SB J-6	SB J-7	SB K-5	SB K-6	SB K-7	SB K 7-8	SB L-2	SB L-4	SB L-4	SB L-5
Sample ID:	S-022106-NR-017	S-022206-NR-062	S-022106-EV-008	S-022306-EV-057	S-022206-EV-045	S-022306-EV-056	S-022106-EV-010	S-022106-EV-031	S-022206-EV-044	S-022306-EV-055	S-022106-EV-032	S-022206-EV-043	S-022206-EV-042	S-022306-EV-066	S-022306-EV-058	S-022306-EV-059	S-022306-EV-054
Sample Date:	2/21/2006	2/22/2006	2/21/2006	2/23/2006	2/22/2006	2/23/2006	2/21/2006	2/21/2006	2/22/2006	2/23/2006	2/21/2006	2/22/2006	2/22/2006	2/23/2006	2/23/2006	2/23/2006	2/23/2006
Sample Depth:	(1.2-1.7) ft BGS	(1.6-2.1) ft BGS	(2.6-3.1) ft BGS	(2.9-3.3) ft BGS	(2.9-3.3) ft BGS	(2.4-2.8) ft BGS	(3-3.5) ft BGS	(3-3.5) ft BGS (Duplicate)	(3-3.4) ft BGS	(2.5-3) ft BGS	(2.8-3.2) ft BGS	(2.9-3.3) ft BGS	(2.8-3.2) ft BGS	(0.6-0.9) ft BGS	(2.8-3.2) ft BGS	(2.8-3.2) ft BGS (Duplicate)	(2.6-3) ft BGS
Parameters	Units																
Metals																	
Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Chemistry																	
British thermal units (BTU)	BTU/lb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

- J - Estimated concentration.
- U - Not detected at the associated reporting limit.
- UJ - Not detected; associated reporting limit is estimated.

Table 1

Analytical Results Summary - Soil
Former East Chicago Refinery

Sample Location:	SB L-7	SB L-8	SB L-8	SB M-2	SB M-3	SB M-5	SB M-5	SB M-6	SB M-7	SB M-8	SB N-2	SB N-3	SB N-4	SB N 4-5	SB O-2	SB O-3	SB O-4	
Sample ID:	S-022106-EV-038	S-022206-EV-040	S-022206-EV-041	S-022306-EV-065	S-022306-EV-060	S-022206-EV-051	S-022206-EV-052	S-022106-EV-034	S-022106-EV-035	S-022106-EV-036	S-022306-EV-064	S-022306-EV-061	S-022206-EV-047	S-022206-EV-050	S-022306-EV-063	S-022306-EV-062	S-022206-EV-048	
Sample Date:	2/21/2006	2/22/2006	2/22/2006	2/23/2006	2/23/2006	2/22/2006	2/22/2006	2/21/2006	2/21/2006	2/21/2006	2/23/2006	2/23/2006	2/21/2006	2/22/2006	2/23/2006	2/23/2006	2/22/2006	
Sample Depth:	(2.4-2.8) ft BGS	(2.5-3) ft BGS	(2.5-3) ft BGS (Duplicate)	(2.2-3) ft BGS	(3.2-3.6) ft BGS	(2.8-3.2) ft BGS	(2.8-3.2) ft BGS (Duplicate)	(3.2-3.6) ft BGS	(2.2-2.6) ft BGS	(2.3-2.9) ft BGS	(2.7-3) ft BGS	(2.9-3.3) ft BGS	(3-3.4) ft BGS	(3.1-3.5) ft BGS	(3.4-3.8) ft BGS	(3.6-4) ft BGS	(3.2-3.6) ft BGS	
Parameters	Units																	
Volatile Organic Compounds																		
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Dioxane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Carbon disulfide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylbenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Styrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Toluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trichloroethene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Xylenes (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Volatile Organic Compounds - BTEX																		
Benzene	mg/kg	0.0056 U	0.0059 U	0.0063 U	0.3 UJ	0.18 J	2.5 J	2 J	0.27 J	0.006 U	0.0059 U	0.006 UJ	1 UJ	0.0059 U	0.0061 U	0.0059 UJ	0.33 UJ	1 U
Ethylbenzene	mg/kg	0.0056 U	0.0059 U	0.0063 U	0.3 UJ	2.3 J	1.6 J	1.6 J	4.1	0.006 U	0.0059 U	0.006 UJ	1 UJ	0.0059 U	0.0061 U	0.0059 UJ	0.33 UJ	1 U
Toluene	mg/kg	0.0056 U	0.0059 U	0.0046 J	0.03 J	0.95 J	1.2 J	1.3 J	0.5 J	0.006 U	0.0059 U	0.006 UJ	0.082 J	0.0059 U	0.0061 U	0.00036 J	0.024 J	1 U
Xylenes (total)	mg/kg	0.011 U	0.012 U	0.013 U	0.019 J	44 J	6.8 J	6.9	10	0.012 U	0.012 U	0.012 UJ	2.1 UJ	0.012 U	0.012 U	0.012 UJ	0.66 UJ	0.15 J
Semi-volatile Organic Compounds																		
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-Dimethylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4-Dinitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b)pyridine (Quinoline)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chrysene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Diethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dimethyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Di-n-butylphthalate (DBP)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fluoranthene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fluorene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pyrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pyridine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table 1

Analytical Results Summary - Soil
Former East Chicago Refinery

Sample Location:	SB L-7	SB L-8	SB L-8	SB M-2	SB M-3	SB M-5	SB M-5	SB M-6	SB M-7	SB M-8	SB N-2	SB N-3	SB N-4	SB N 4-5	SB O-2	SB O-3	SB O-4
Sample ID:	S-022106-EV-038	S-022206-EV-040	S-022206-EV-041	S-022306-EV-065	S-022306-EV-060	S-022206-EV-051	S-022206-EV-052	S-022106-EV-034	S-022106-EV-035	S-022106-EV-036	S-022306-EV-064	S-022306-EV-061	S-022206-EV-047	S-022206-EV-050	S-022306-EV-063	S-022306-EV-062	S-022206-EV-048
Sample Date:	2/21/2006	2/22/2006	2/22/2006	2/23/2006	2/23/2006	2/22/2006	2/22/2006	2/21/2006	2/21/2006	2/21/2006	2/23/2006	2/23/2006	2/22/2006	2/22/2006	2/23/2006	2/23/2006	2/22/2006
Sample Depth:	(2.4-2.8) ft BGS	(2.5-3) ft BGS	(2.5-3) ft BGS (Duplicate)	(2.2-3) ft BGS	(3.2-3.6) ft BGS	(2.8-3.2) ft BGS	(2.8-3.2) ft BGS (Duplicate)	(3.2-3.6) ft BGS	(2.2-2.6) ft BGS	(2.3-2.9) ft BGS	(2.7-3) ft BGS	(2.9-3.3) ft BGS	(3-3.4) ft BGS	(3.1-3.5) ft BGS	(3.4-3.8) ft BGS	(3.6-4) ft BGS	(3.2-3.6) ft BGS
Parameters	Units																
Metals																	
Antimony	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Chemistry																	
British thermal units (BTU)	BTU/lb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

- J - Estimated concentration.
- U - Not detected at the associated reporting limit.
- UJ - Not detected; associated reporting limit is estimated.

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:		MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1B	MW-1B	MW-1B	MW-1B	
Sample ID:		GW-022707-JO-004	GW-032207-JO-009	GW-060507-JO-005	GW-120607-SP-010	GW-030508-KW-005	GW-080410-LP-02	GW-080410-LP-03	GW-060211-JH-16	GW-110211-JH-42	GW-022707-JO-005	GW-032207-JO-010	GW-060507-JO-004	GW-120607-SP-009	
Sample Date:		2/27/2007	3/22/2007	6/5/2007	12/6/2007	3/5/2008	8/4/2010	8/4/2010 (Duplicate)	6/2/2011	11/2/2011	2/27/2007	3/22/2007	6/5/2007	12/6/2007	
Parameters	Units	IDEM Residential Groundwater Screening Level													
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	200	10 U	-	9.1 U	10 U	5.0 U	-	-	-	10 U	1.0 U	-	5.0 U	2.0 U
1,1,2,2-Tetrachloroethane	µg/L	0.76	-	-	-	-	-	-	-	-	10 U	-	-	-	-
1,1,2-Trichloroethane	µg/L	5	-	-	-	-	-	-	-	-	10 U	-	-	-	-
1,1-Dichloroethane	µg/L	28	10 U	-	9.1 U	10 U	5.0 U	-	-	-	10 U	1.0 U	-	5.0 U	2.0 U
1,1-Dichloroethene	µg/L	7	-	-	-	-	-	-	-	-	10 U	-	-	-	-
1,2,4-Trichlorobenzene	µg/L	70	-	-	-	-	-	-	-	-	10 U	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	0.2	-	-	-	-	-	-	-	-	20 U	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	0.05	10 U	-	9.1 U	10 U	5.0 U	-	-	-	10 U	1.0 U	-	5.0 U	2.0 U
1,2-Dichlorobenzene	µg/L	600	-	-	-	-	-	-	-	-	10 U	-	-	-	-
1,2-Dichloroethane	µg/L	5	10 U	-	9.1 U	10 U	5.0 U	-	-	-	10 U	1.0 U	-	5.0 U	2.0 U
1,2-Dichloropropane	µg/L	5	-	-	-	-	-	-	-	-	10 U	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	10 U	-	-	-	-
1,4-Dichlorobenzene	µg/L	75	-	-	-	-	-	-	-	-	10 U	-	-	-	-
1,4-Dioxane	µg/L	4.6	2000 U	-	1800 U	2000 U	1000 U	-	-	-	-	200 U	-	1000 U	400 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5600	100 U	-	6.6 J	100 U	50 U	-	-	-	100 U	10 U	-	50 U	20 U
2-Hexanone	µg/L	38	-	-	-	-	-	-	-	-	100 U	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	6300	-	-	-	-	-	-	-	-	100 U	-	-	-	-
Acetone	µg/L	14000	-	-	-	-	-	-	-	-	100 U	-	-	-	-
Benzene	µg/L	5	120	-	250	85	95	-	-	-	200	0.94 J	-	5.0 U	0.52 J
Bromodichloromethane	µg/L	80	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Bromoform	µg/L	80	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Bromomethane (Methyl bromide)	µg/L	7.5	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Carbon disulfide	µg/L	810	10 U	-	9.1 U	10 U	5.0 U	-	-	-	10 U	1.0 U	-	5.0 U	2.0 U
Carbon tetrachloride	µg/L	5	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Chlorobenzene	µg/L	100	10 U	-	9.1 U	10 U	5.0 U	-	-	-	10 U	1.0 U	-	5.0 U	2.0 U
Chloroethane	µg/L	21000	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Chloroform (Trichloromethane)	µg/L	80	10 U	-	9.1 U	10 U	5.0 U	-	-	-	10 U	1.0 U	-	5.0 U	2.0 U
Chloromethane (Methyl chloride)	µg/L	190	-	-	-	-	-	-	-	-	10 U	-	-	-	-
cis-1,2-Dichloroethene	µg/L	70	-	-	-	-	-	-	-	-	10 U	-	-	-	-
cis-1,3-Dichloropropene	µg/L	-	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Cyclohexane	µg/L	13000	-	-	-	-	-	-	-	-	210	-	-	-	-
Dibromochloromethane	µg/L	80	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Dichlorodifluoromethane (CFC-12)	µg/L	200	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Ethylbenzene	µg/L	700	81	-	62	75	83	-	-	-	45	1.1	-	5.0 U	2.0 U
Isopropyl benzene	µg/L	450	-	-	-	-	-	-	-	-	49	-	-	-	-
Methyl acetate	µg/L	20000	-	-	-	-	-	-	-	-	100 U	-	-	-	-
Methyl cyclohexane	µg/L	-	-	-	-	-	-	-	-	-	210	-	-	-	-
Methyl tert butyl ether (MTBE)	µg/L	140	50 U	-	45 U	50 U	25 U	-	-	-	50 U	5.0 U	-	25 U	10 U
Methylene chloride	µg/L	5	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Styrene	µg/L	100	10 U	-	9.1 U	10 U	5.0 U	-	-	-	10 U	1.0 U	-	5.0 U	2.0 U
Tetrachloroethene	µg/L	5	10 U	-	9.1 U	10 U	5.0 U	-	-	-	10 U	1.0 U	-	5.0 U	2.0 U
Toluene	µg/L	1000	39	-	41	39	39	-	-	-	35	0.76 J	-	5.0 U	2.0 U
trans-1,2-Dichloroethene	µg/L	100	-	-	-	-	-	-	-	-	10 U	-	-	-	-
trans-1,3-Dichloropropene	µg/L	-	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Trichloroethene	µg/L	5	10 U	-	9.1 U	10 U	5.0 U	-	-	-	10 U	1.0 U	-	1.4 J	2.0 U
Trichlorofluoromethane (CFC-11)	µg/L	5200	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Trifluorotrchloroethane (CFC-113)	µg/L	55000	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Vinyl chloride	µg/L	2	-	-	-	-	-	-	-	-	10 U	-	-	-	-
Xylenes (total)	µg/L	10000	210	-	160	230	240	-	-	-	160	2.4	-	10 U	4.0 U
Volatile Organic Compounds - BTEX															
Benzene	µg/L	5	-	-	-	-	290	280	310	-	-	-	-	-	-
Ethylbenzene	ug/L	700	-	-	-	-	48	47	51	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	ug/L	140	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	1000	-	-	-	-	40	38	39	-	-	-	-	-	-
Xylenes (total)	ug/L	10000	-	-	-	-	150	150	150	-	-	-	-	-	-

**Analytical Results Summary - Groundwater
Former East Chicago Refinery**

Sample Location: Sample ID: Sample Date:	Units	IDEM Residential Groundwater Screening Level	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1B	MW-1B	MW-1B	MW-1B
			GW-022707-JO-004 2/27/2007	GW-032207-JO-009 3/22/2007	GW-060507-JO-05 6/5/2007	GW-120607-SP-010 12/6/2007	GW-030508-KW-005 3/5/2008	GW-080410-LP-02 8/4/2010	GW-080410-LP-03 8/4/2010 (Duplicate)	GW-060211-JH-16 6/2/2011	GW-110211-JH-42 11/2/2011	GW-022707-JO-005 2/27/2007	GW-032207-JO-010 3/22/2007	GW-060507-JO-04 6/5/2007
Parameters														
Semi-volatile Organic Compounds														
1,2-Dichlorobenzene	µg/L	600	-	50 U	200 U	25 U	20 U	-	-	-	-	40 U	100 U	25 U
1,3-Dichlorobenzene	µg/L	-	-	50 U	200 U	25 U	20 U	-	-	-	-	40 U	100 U	25 U
1,4-Dichlorobenzene	µg/L	75	-	50 U	200 U	25 U	20 U	-	-	-	-	40 U	100 U	25 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	710	-	-	-	-	-	-	-	-	4.8 U	-	-	-
2,4,5-Trichlorophenol	µg/L	1200	-	-	-	-	-	-	-	-	24 U	-	-	-
2,4,6-Trichlorophenol	µg/L	12	-	-	-	-	-	-	-	-	24 U	-	-	-
2,4-Dichlorophenol	µg/L	46	-	-	-	-	-	-	-	-	9.5 U	-	-	-
2,4-Dimethylphenol	µg/L	360	-	7.7 J	15 J	8.4 J	9.7 J	-	-	-	9.5 U	-	40 U	100 U
2,4-Dinitrophenol	µg/L	39	-	250 U	1000 U	120 U	100 U	-	-	-	24 U	-	200 U	500 U
2,4-Dinitrotoluene	µg/L	2.4	-	-	-	-	-	-	-	-	24 U	-	-	-
2,6-Dinitrotoluene	µg/L	0.49	-	-	-	-	-	-	-	-	24 U	-	-	-
2-Chloronaphthalene	µg/L	750	-	-	-	-	-	-	-	-	4.8 U	-	-	-
2-Chlorophenol	µg/L	91	-	-	-	-	-	-	-	-	4.8 U	-	-	-
2-Methylnaphthalene	µg/L	36	-	-	-	-	-	-	-	-	39	-	-	-
2-Methylphenol	µg/L	930	-	50 U	200 U	25 U	20 U	-	-	-	4.8 U	-	40 U	100 U
2-Nitroaniline	µg/L	190	-	-	-	-	-	-	-	-	9.5 U	-	-	-
2-Nitrophenol	µg/L	-	-	-	-	-	-	-	-	-	9.5 U	-	-	-
3&4-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	9.5 U	-	-	-
3,3'-Dichlorobenzidine	µg/L	1.3	-	-	-	-	-	-	-	-	24 U	-	-	-
3-Methylphenol	µg/L	930	-	50 U	200 U	25 U	20 U	-	-	-	-	-	40 U	100 U
3-Nitroaniline	µg/L	-	-	-	-	-	-	-	-	-	9.5 U	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	1.5	-	-	-	-	-	-	-	-	24 U	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	-	-	-	-	-	-	-	-	9.5 U	-	-	-
4-Chloro-3-methylphenol	µg/L	1400	-	-	-	-	-	-	-	-	9.5 U	-	-	-
4-Chloroaniline	µg/L	3.7	-	-	-	-	-	-	-	-	9.5 U	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	-	-	-	-	-	-	-	-	9.5 U	-	-	-
4-Methylphenol	µg/L	1900	-	50 U	200 U	25 U	20 U	-	-	-	-	-	40 U	100 U
4-Nitroaniline	µg/L	38	-	-	-	-	-	-	-	-	9.5 U	-	-	-
4-Nitrophenol	µg/L	-	-	250 U	1000 U	120 U	100 U	-	-	-	24 U	-	200 U	500 U
Acenaphthene	µg/L	530	-	2.0 J	200 U	2.1 J	1.3 J	-	-	-	1.2	-	40 U	100 U
Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	0.95 U	-	-	-
Acetophenone	µg/L	1900	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Anthracene	µg/L	1800	-	50 U	200 U	25 U	20 U	-	-	-	0.95 U	-	40 U	100 U
Atrazine	µg/L	3	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Benzaldehyde	µg/L	190	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Benzo(a)anthracene	µg/L	0.12	-	50 U	200 U	25 U	20 U	-	-	-	0.95 U	-	40 U	100 U
Benzo(a)pyrene	µg/L	0.2	-	50 U	200 U	25 U	20 U	-	-	-	0.95 U	-	40 U	100 U
Benzo(b)fluoranthene	µg/L	0.34	-	50 U	200 U	25 U	20 U	-	-	-	0.95 U	-	40 U	100 U
Benzo(b)pyridine (Quinoline)	µg/L	0.24	-	50 U	200 U	25 U	20 U	-	-	-	-	-	40 U	100 U
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	0.95 U	-	-	-
Benzo(k)fluoranthene	µg/L	3.4	-	50 U	200 U	25 U	20 U	-	-	-	0.95 U	-	40 U	100 U
Biphenyl (1,1'-Biphenyl)	µg/L	0.83	-	-	-	-	-	-	-	-	4.8 U	-	-	-
bis(2-Chloroethoxy)methane	µg/L	59	-	-	-	-	-	-	-	-	4.8 U	-	-	-
bis(2-Chloroethyl)ether	µg/L	0.14	-	-	-	-	-	-	-	-	4.8 U	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	-	50 U	200 U	25 U	20 U	-	-	-	9.5 U	-	40 U	100 U
Butyl benzylphthalate (BBP)	µg/L	160	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Caprolactam	µg/L	9900	-	-	-	-	-	-	-	-	24 U	-	-	-
Carbazole	µg/L	-	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Chrysene	µg/L	34	-	50 U	200 U	25 U	20 U	-	-	-	0.95 U	-	40 U	100 U
Dibenz(a,h)anthracene	µg/L	0.034	-	50 U	200 U	25 U	20 U	-	-	-	0.95 U	-	40 U	100 U
Dibenzofuran	µg/L	7.9	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Diethyl phthalate	µg/L	15000	-	50 U	200 U	25 U	20 U	-	-	-	4.8 U	-	40 U	100 U
Dimethyl phthalate	µg/L	-	-	50 U	200 U	25 U	20 U	-	-	-	4.8 U	-	40 U	100 U
Di-n-butylphthalate (DBP)	µg/L	900	-	50 U	200 U	25 U	20 U	-	-	-	4.8 U	-	40 U	100 U
Di-n-octyl phthalate (DnOP)	µg/L	200	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Fluoranthene	µg/L	800	-	50 U	200 U	25 U	0.51 J	-	-	-	0.95 U	-	40 U	100 U
Fluorene	µg/L	290	-	2.0 J	200 U	2.4 J	1.4 J	-	-	-	1.7	-	40 U	100 U
Hexachlorobenzene	µg/L	1	-	-	-	-	-	-	-	-	0.95 U	-	-	-
Hexachlorobutadiene	µg/L	1.4	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Hexachlorocyclopentadiene	µg/L	50	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Hexachloroethane	µg/L	3.3	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	0.34	-	50 U	200 U	25 U	20 U	-	-	-	0.95 U	-	40 U	100 U
Isophorone	µg/L	780	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Naphthalene	µg/L	1.7	-	44 J	44 J	50	52	-	-	-	11	-	40 U	100 U
Nitrobenzene	µg/L	1.4	-	-	-	-	-	-	-	-	4.8 U	-	-	-
N-Nitrosodi-n-propylamine	µg/L	0.11	-	-	-	-	-	-	-	-	4.8 U	-	-	-
N-Nitrosodiphenylamine	µg/L	120	-	-	-	-	-	-	-	-	4.8 U	-	-	-
Pentachlorophenol	µg/L	1	-	-	-	-	-	-	-	-	24 U	-	-	-
Phenanthrene	µg/L	-	-	4.1 J	8.5 J	5.1 J	4.4 J	-	-	-	3.8	-	40 U	100 U
Phenol	µg/L	5800	-	50 U	200 U	25 U	20 U	-	-	-	4.8 U	-	40 U	100 U
Pyrene	µg/L	120	-	50 U	200 U	25 U	0.58 J	-	-	-	0.95 U	-	40 U	100 U
Pyridine	µg/L	20	-	100 U	400 U	50 U	40 U	-	-	-	-	-	80 U	200 U

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:		MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1A	MW-1B	MW-1B	MW-1B	MW-1B
Sample ID:		GW-022707-JO-004	GW-032207-JO-009	GW-060507-JO-005	GW-120607-SP-010	GW-030508-KW-005	GW-080410-LP-02	GW-080410-LP-03	GW-060211-JH-16	GW-110211-JH-42	GW-022707-JO-005	GW-032207-JO-010	GW-060507-JO-004	GW-120607-SP-009
Sample Date:		2/27/2007	3/22/2007	6/5/2007	12/6/2007	3/5/2008	8/4/2010	8/4/2010 (Duplicate)	6/2/2011	11/2/2011	2/27/2007	3/22/2007	6/5/2007	12/6/2007
Parameters	Units	IDEM Residential Groundwater Screening Level												
Metals														
Aluminum	µg/L	20000	-	-	-	-	-	-	-	-	200 U	-	-	-
Antimony	µg/L	6	-	60.0 U	60.0 U	60.0 U	60.0 U	60.0 U	-	-	10 U	-	60.0 U	60.0 U
Arsenic	µg/L	10	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	10 U	-	35.9	36.2
Arsenic (dissolved)	µg/L	10	-	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/L	2000	-	188 J	284	207	150 J	-	-	-	240	-	230	230
Beryllium	µg/L	4	-	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	5.0 U	-	0.56 J	5.0 U
Cadmium	µg/L	5	-	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	2.0 U	-	5.0 U	5.0 U
Calcium	µg/L	-	-	-	-	-	-	-	-	-	160000	-	-	-
Chromium	µg/L	100	-	10.0 U	10.0 U	10.0 U	10.0 U	-	-	-	5.0 U	-	10.0 U	10.0 U
Cobalt	µg/L	6	-	50.0 U	2.9 J	50.0 U	50.0 U	-	-	-	7.0 U	-	50.0 U	50.0 U
Copper	µg/L	1300	-	-	-	-	-	-	-	-	25 U	-	-	-
Iron	µg/L	14000	-	-	-	-	-	-	-	-	7900	-	-	-
Lead	µg/L	15	-	3.0 U	3.0 U	3.0 U	4.8	-	-	-	3.0 U	-	3.0 U	3.0 U
Magnesium	µg/L	-	-	-	-	-	-	-	-	-	28000	-	-	-
Manganese	µg/L	430	-	-	-	-	-	-	-	-	1200	-	-	-
Mercury	µg/L	-	0.20 U	0.20 U	0.20	0.39 U	-	-	-	-	0.33	-	0.20 U	0.20 U
Nickel	µg/L	390	-	40.0 U	2.0 J	40.0 U	40.0 U	-	-	-	40 U	-	40.0 U	40.0 U
Potassium	µg/L	-	-	-	-	-	-	-	-	-	6000	-	-	-
Selenium	µg/L	50	-	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	5.0 U	-	5.0 U	2.6 J
Silver	µg/L	94	-	10.0 U	10.0 U	10.0 U	10.0 U	-	-	-	5.0 U	-	10.0 U	10.0 U
Sodium	µg/L	-	-	-	-	-	-	-	-	-	5000 U	-	-	-
Thallium	µg/L	2	-	-	-	-	-	-	-	-	10 U	-	-	-
Vanadium	µg/L	86	-	50.0 U	50.0 U	0.87 J	1.5 J	-	-	-	7.0 U	-	50.0 U	50.0 U
Zinc	µg/L	6000	-	20.0 U	20.0 U	20.0 U	20.0 U	-	-	-	50 U	-	20.0 U	20.0 U
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	1.4	-	-	-	-	-	-	-	-	0.48 U	-	-	-
Aroclor-1221 (PCB-1221)	µg/L	0.047	-	-	-	-	-	-	-	-	0.48 U	-	-	-
Aroclor-1232 (PCB-1232)	µg/L	0.047	-	-	-	-	-	-	-	-	0.48 U	-	-	-
Aroclor-1242 (PCB-1242)	µg/L	0.078	-	-	-	-	-	-	-	-	0.48 U	-	-	-
Aroclor-1248 (PCB-1248)	µg/L	0.078	-	-	-	-	-	-	-	-	0.48 U	-	-	-
Aroclor-1254 (PCB-1254)	µg/L	0.078	-	-	-	-	-	-	-	-	0.48 U	-	-	-
Aroclor-1260 (PCB-1260)	µg/L	0.078	-	-	-	-	-	-	-	-	0.48 U	-	-	-
General Chemistry														
Cyanide (total)	µg/L	200	-	10 U	10 U	10 U	10 U	-	-	-	10 U	-	10 U	10 U

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-1B	MW-1B	MW-1B	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2B	MW-2B	MW-2B	
Sample ID:	GW-030508-KW-004	GW-060211-JH-18	GW-110211-JH-40	GW-022707-JO-007	GW-032607-JO-011	GW-060607-JO-07	GW-120607-SP-012	GW-030608-KW-014	GW-080410-LP-01	GW-060211-JH-29	GW-110211-JH-39	GW-022707-JO-006	GW-032607-JO-012	GW-060607-JO-08	
Sample Date:	3/5/2008	6/2/2011	11/2/2011	2/27/2007	3/26/2007	6/6/2007	12/6/2007	3/6/2008	8/4/2010	6/2/2011	11/2/2011	2/27/2007	3/26/2007	6/6/2007	
Parameters	Units														
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	1.0 U	-	1.0 U	6.7 U	-	1.0 U	5.0 U	1.0 U	-	-	1.0 U	1.0 U	-	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
1,1,2-Trichloroethane	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
1,1-Dichloroethane	µg/L	1.0 U	-	1.0 U	6.7 U	-	1.0 U	5.0 U	1.0 U	-	-	1.0 U	1.0 U	-	1.0 U
1,1-Dichloroethene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
1,2,4-Trichlorobenzene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	2.0 U	-	-	-	-	-	-	-	2.0 U	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	-	1.0 U	6.7 U	-	1.0 U	5.0 U	1.0 U	-	-	1.0 U	1.0 U	-	1.0 U
1,2-Dichlorobenzene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
1,2-Dichloroethane	µg/L	1.0 U	-	1.0 U	6.7 U	-	1.0 U	5.0 U	1.0 U	-	-	1.0 U	1.0 U	-	1.0 U
1,2-Dichloropropane	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
1,4-Dioxane	µg/L	200 U	-	-	1300 U	-	200 U	1000 U	200 U	-	-	-	200 U	-	200 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	-	10 U	67 U	-	7.8 J	50 U	1.4 J	-	-	10 U	10 U	-	10 U
2-Hexanone	µg/L	-	-	10 U	-	-	-	-	-	-	-	10 U	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	10 U	-	-	-	-	-	-	-	10 U	-	-	-
Acetone	µg/L	-	-	10 U	-	-	-	-	-	-	-	10 U	-	-	-
Benzene	µg/L	1.0 U	-	1.0 U	110	-	71	110	3.3	-	-	7.0	1.0 U	-	1.0 U
Bromodichloromethane	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Bromoform	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Bromomethane (Methyl bromide)	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Carbon disulfide	µg/L	1.0 U	-	1.0 U	6.7 U	-	1.0 U	5.0 U	1.0 U	-	-	1.0 U	1.0 U	-	1.0 U
Carbon tetrachloride	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Chlorobenzene	µg/L	1.0 U	-	1.0 U	6.7 U	-	1.0 U	5.0 U	1.0 U	-	-	1.0 U	1.0 U	-	1.0 U
Chloroethane	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Chloroform (Trichloromethane)	µg/L	1.0 U	-	1.0 U	6.7 U	-	1.0 U	5.0 U	1.0 U	-	-	1.0 U	1.0 U	-	1.0 U
Chloromethane (Methyl chloride)	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
cis-1,2-Dichloroethene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
cis-1,3-Dichloropropene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Cyclohexane	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	3.3	-	-	-
Dibromochloromethane	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Ethylbenzene	µg/L	0.23 J	-	1.0 U	6.9	-	2.5	3.8 J	0.37 J	-	-	1.0 U	1.0 U	-	1.0 U
Isopropyl benzene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Methyl acetate	µg/L	-	-	10 U	-	-	-	-	-	-	-	10 U	-	-	-
Methyl cyclohexane	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Methyl tert butyl ether (MTBE)	µg/L	5.0 U	-	5.0 U	33 U	-	5.0 U	25 U	5.0 U	-	-	5.0 U	5.0 U	-	5.0 U
Methylene chloride	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Styrene	µg/L	1.0 U	-	1.0 U	6.7 U	-	1.0 U	5.0 U	1.0 U	-	-	1.0 U	1.0 U	-	1.0 U
Tetrachloroethene	µg/L	1.0 U	-	1.0 U	6.7 U	-	1.0 U	5.0 U	1.0 U	-	-	1.0 U	1.0 U	-	1.0 U
Toluene	µg/L	0.26 J	-	1.0 U	40	-	27	40	3.1	-	-	1.0 U	1.0 U	-	1.0 U
trans-1,2-Dichloroethene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
trans-1,3-Dichloropropene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Trichloroethene	µg/L	1.0 U	-	1.0 U	6.7 U	-	1.0 U	5.0 U	1.0 U	-	-	1.0 U	1.0 U	-	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Trifluorotrchloroethane (CFC-113)	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Vinyl chloride	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-
Xylenes (total)	µg/L	0.39 J	-	2.0 U	32	-	6.1	15	2.1	-	-	2.0 U	2.0 U	-	2.0 U
Volatile Organic Compounds - BTEX															
Benzene	µg/L	-	1.0 U	-	-	-	-	-	-	1.0 U	1.0	-	-	-	-
Ethylbenzene	ug/L	-	1.0 U	-	-	-	-	-	-	1.0 U	1.0 U	-	-	-	-
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	1.0 U	-	-	-	-	-	-	1.0 U	1.0 U	-	-	-	-
Xylenes (total)	ug/L	-	2.0 U	-	-	-	-	-	-	2.0 U	2.0 U	-	-	-	-

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-1B	MW-1B	MW-1B	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2B	MW-2B	MW-2B
Sample ID:	GW-030508-KW-004	GW-060211-JH-18	GW-110211-JH-40	GW-022707-JO-007	GW-032607-JO-011	GW-060607-JO-07	GW-120607-SP-012	GW-030608-KW-014	GW-080410-LP-01	GW-060211-JH-29	GW-110211-JH-39	GW-022707-JO-006	GW-032607-JO-012	GW-060607-JO-08
Sample Date:	3/5/2008	6/2/2011	11/2/2011	2/27/2007	3/26/2007	6/6/2007	12/6/2007	3/6/2008	8/4/2010	6/2/2011	11/2/2011	2/27/2007	3/26/2007	6/6/2007
Parameters	Units													
Semi-volatile Organic Compounds														
1,2-Dichlorobenzene	µg/L	40 U	-	-	-	25 U	50 U	10 U	10 U	-	-	-	40 U	50 U
1,3-Dichlorobenzene	µg/L	40 U	-	-	-	25 U	50 U	10 U	10 U	-	-	-	40 U	50 U
1,4-Dichlorobenzene	µg/L	40 U	-	-	-	25 U	50 U	10 U	10 U	-	-	-	40 U	50 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
2,4,5-Trichlorophenol	µg/L	-	-	19 U	-	-	-	-	-	-	-	5.0 U	-	-
2,4,6-Trichlorophenol	µg/L	-	-	19 U	-	-	-	-	-	-	-	5.0 U	-	-
2,4-Dichlorophenol	µg/L	-	-	7.7 U	-	-	-	-	-	-	-	2.0 U	-	-
2,4-Dimethylphenol	µg/L	40 U	-	7.7 U	-	25 U	50 U	10 U	10 U	-	-	2.0 U	-	40 U
2,4-Dinitrophenol	µg/L	200 U	-	19 U	-	120 U	250 U	50 U	50 U	-	-	5.0 U	-	200 U
2,4-Dinitrotoluene	µg/L	-	-	19 U	-	-	-	-	-	-	-	5.0 U	-	-
2,6-Dinitrotoluene	µg/L	-	-	19 U	-	-	-	-	-	-	-	5.0 U	-	-
2-Chloronaphthalene	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
2-Chlorophenol	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
2-Methylnaphthalene	µg/L	-	-	0.77 U	-	-	-	-	-	-	-	0.20 U	-	-
2-Methylphenol	µg/L	40 U	-	3.8 U	-	25 U	50 U	10 U	10 U	-	-	1.0 U	-	40 U
2-Nitroaniline	µg/L	-	-	7.7 U	-	-	-	-	-	-	-	2.0 U	-	-
2-Nitrophenol	µg/L	-	-	7.7 U	-	-	-	-	-	-	-	2.0 U	-	-
3&4-Methylphenol	µg/L	-	-	7.7 U	-	-	-	-	-	-	-	2.0 U	-	-
3,3'-Dichlorobenzidine	µg/L	-	-	19 U	-	-	-	-	-	-	-	5.0 U	-	-
3-Methylphenol	µg/L	40 U	-	-	-	25 U	50 U	10 U	10 U	-	-	-	-	40 U
3-Nitroaniline	µg/L	-	-	7.7 U	-	-	-	-	-	-	-	2.0 U	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	-	19 U	-	-	-	-	-	-	-	5.0 U	-	-
4-Bromophenyl phenyl ether	µg/L	-	-	7.7 U	-	-	-	-	-	-	-	2.0 U	-	-
4-Chloro-3-methylphenol	µg/L	-	-	7.7 U	-	-	-	-	-	-	-	2.0 U	-	-
4-Chloroaniline	µg/L	-	-	7.7 U	-	-	-	-	-	-	-	2.0 U	-	-
4-Chlorophenyl phenyl ether	µg/L	-	-	7.7 U	-	-	-	-	-	-	-	2.0 U	-	-
4-Methylphenol	µg/L	40 U	-	-	-	25 U	50 U	10 U	10 U	-	-	-	-	40 U
4-Nitroaniline	µg/L	-	-	7.7 U	-	-	-	-	-	-	-	2.0 U	-	-
4-Nitrophenol	µg/L	200 U	-	19 U	-	120 U	250 U	50 U	50 U	-	-	5.0 U	-	200 U
Acenaphthene	µg/L	40 U	-	0.77 U	-	1.3 J	50 U	1.6 J	10 U	-	-	0.20 U	-	40 U
Acenaphthylene	µg/L	-	-	0.77 U	-	-	-	-	-	-	-	0.20 U	-	-
Acetophenone	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Anthracene	µg/L	40 U	-	0.77 U	-	25 U	50 U	10 U	10 U	-	-	0.20 U	-	40 U
Atrazine	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Benzaldehyde	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Benzo(a)anthracene	µg/L	40 U	-	0.77 U	-	25 U	50 U	10 U	10 U	-	-	0.20 U	-	40 U
Benzo(a)pyrene	µg/L	40 U	-	0.77 U	-	25 U	50 U	10 U	10 U	-	-	0.20 U	-	40 U
Benzo(b)fluoranthene	µg/L	40 U	-	0.77 U	-	25 U	50 U	10 U	10 U	-	-	0.20 U	-	40 U
Benzo(b)pyridine (Quinoline)	µg/L	40 U	-	-	-	25 U	50 U	10 U	10 U	-	-	-	-	40 U
Benzo(g,h,i)perylene	µg/L	-	-	0.77 U	-	-	-	-	-	-	-	0.20 U	-	-
Benzo(k)fluoranthene	µg/L	40 U	-	0.77 U	-	25 U	50 U	10 U	10 U	-	-	0.20 U	-	40 U
Biphenyl (1,1-Biphenyl)	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
bis(2-Chloroethoxy)methane	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
bis(2-Chloroethyl)ether	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	40 U	-	7.7 U	-	25 U	50 U	10 U	10 U	-	-	2.0 U	-	40 U
Butyl benzylphthalate (BBP)	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Caprolactam	µg/L	-	-	19 U	-	-	-	-	-	-	-	5.0 U	-	-
Carbazole	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Chrysene	µg/L	40 U	-	0.77 U	-	25 U	50 U	10 U	0.30 J	-	-	0.20 U	-	40 U
Dibenz(a,h)anthracene	µg/L	40 U	-	0.77 U	-	25 U	50 U	10 U	10 U	-	-	0.20 U	-	40 U
Dibenzofuran	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Diethyl phthalate	µg/L	40 U	-	3.8 U	-	25 U	50 U	10 U	10 U	-	-	1.0 U	-	40 U
Dimethyl phthalate	µg/L	40 U	-	3.8 U	-	25 U	50 U	10 U	10 U	-	-	1.0 U	-	40 U
Di-n-butylphthalate (DBP)	µg/L	40 U	-	3.8 U	-	25 U	50 U	10 U	10 U	-	-	1.0 U	-	40 U
Di-n-octyl phthalate (DnOP)	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Fluoranthene	µg/L	40 U	-	0.77 U	-	25 U	50 U	10 U	10 U	-	-	0.20 U	-	0.84 J
Fluorene	µg/L	40 U	-	0.77 U	-	3.1 J	4.9 J	2.9 J	0.29 J	-	-	0.20 U	-	2.2 J
Hexachlorobenzene	µg/L	-	-	0.77 U	-	-	-	-	-	-	-	0.20 U	-	-
Hexachlorobutadiene	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Hexachlorocyclopentadiene	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Hexachloroethane	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Indeno(1,2,3-cd)pyrene	µg/L	40 U	-	0.77 U	-	25 U	50 U	10 U	10 U	-	-	0.20 U	-	40 U
Isophorone	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Naphthalene	µg/L	40 U	-	0.77 U	-	1.3 J	50 U	10 U	10 U	-	-	0.20 U	-	1.2 J
Nitrobenzene	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
N-Nitrosodi-n-propylamine	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
N-Nitrosodiphenylamine	µg/L	-	-	3.8 U	-	-	-	-	-	-	-	1.0 U	-	-
Pentachlorophenol	µg/L	-	-	19 U	-	-	-	-	-	-	-	5.0 U	-	-
Phenanthrene	µg/L	40 U	-	0.77 U	-	11 J	7.8 J	7.3 J	10 U	-	-	0.20 U	-	16 J
Phenol	µg/L	40 U	-	3.8 U	-	25 U	50 U	10 U	10 U	-	-	1.0 U	-	40 U
Pyrene	µg/L	40 U	-	0.77 U	-	1.0 J	50 U	0.73 J	0.50 J	-	-	0.20 U	-	2.1 J
Pyridine	µg/L	80 U	-	-	-	50 U	100 U	20 U	20 U	-	-	-	-	80 U

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-1B	MW-1B	MW-1B	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2A	MW-2B	MW-2B	MW-2B
Sample ID:	GW-030508-KW-004	GW-060211-JH-18	GW-110211-JH-40	GW-022707-JO-007	GW-032607-JO-011	GW-060607-JO-07	GW-120607-SP-012	GW-030608-KW-014	GW-080410-LP-01	GW-060211-JH-29	GW-110211-JH-39	GW-022707-JO-006	GW-032607-JO-012	GW-060607-JO-08
Sample Date:	3/5/2008	6/2/2011	11/2/2011	2/27/2007	3/26/2007	6/6/2007	12/6/2007	3/6/2008	8/4/2010	6/2/2011	11/2/2011	2/27/2007	3/26/2007	6/6/2007
Parameters	Units													
Metals														
Aluminum	µg/L	-	-	200 U	-	-	-	-	-	-	-	200 U	-	-
Antimony	µg/L	60.0 U	-	10 U	-	60.0 U	5.3 J	60.0 U	60.0 U	-	-	10 U	-	60.0 U
Arsenic	µg/L	35.4	-	40	-	19.8	31.8	24.5	10.4	10.0 U	-	14	-	30.9
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/L	246	-	200	-	62.4 J	77.2 J	52.4 J	41.4 J	-	-	200 U	-	305
Beryllium	µg/L	5.0 U	-	5.0 U	-	5.0 U	0.32 J	5.0 U	5.0 U	-	-	5.0 U	-	5.0 U
Cadmium	µg/L	0.99 J	-	2.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U	-	-	2.0 U	-	5.0 U
Calcium	µg/L	-	-	120000	-	-	-	-	-	-	-	100000	-	-
Chromium	µg/L	10.0 U	-	5.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	-	-	5.0 U	-	10.0 U
Cobalt	µg/L	50.0 U	-	7.0 U	-	50.0 U	50.0 U	50.0 U	50.0 U	-	-	7.0 U	-	50.0 U
Copper	µg/L	-	-	25 U	-	-	-	-	-	-	-	25 U	-	-
Iron	µg/L	-	-	21000	-	-	-	-	-	-	-	1400	-	-
Lead	µg/L	3.0 U	-	3.0 U	-	3.0 U	2.8 J	2.0 J	4.4	-	-	3.0 U	-	3.0 U
Magnesium	µg/L	-	-	9700	-	-	-	-	-	-	-	5000 U	-	-
Manganese	µg/L	-	-	150	-	-	-	-	-	-	-	92	-	-
Mercury	µg/L	0.20 U	-	0.20 U	-	0.20 U	0.20 U	0.20 U	0.20 U	-	-	0.20 U	-	0.20 U
Nickel	µg/L	40.0 U	-	40 U	-	40.0 U	40.0 U	40.0 U	6.8 J	-	-	40 U	-	40.0 U
Potassium	µg/L	-	-	5000 U	-	-	-	-	-	-	-	5000 U	-	-
Selenium	µg/L	5.0 U	-	5.0 U	-	5.0 U	5.0 U	5.0 U	5.0 U	-	-	5.0 U	-	5.0 U
Silver	µg/L	10.0 U	-	5.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	-	-	5.0 U	-	10.0 U
Sodium	µg/L	-	-	6300	-	-	-	-	-	-	-	5000 U	-	-
Thallium	µg/L	-	-	10 U	-	-	-	-	-	-	-	10 U	-	-
Vanadium	µg/L	0.95 J	-	7.0 U	-	50.0 U	2.6 J	1.2 J	50.0 U	-	-	7.0 U	-	50.0 U
Zinc	µg/L	20.0 U	-	50 U	-	20.0 U	20.0 U	20.0 U	20.0 U	-	-	50 U	-	20.0 U
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	-	0.48 U	-	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	0.48 U	-	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	0.48 U	-	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	0.48 U	-	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	0.48 U	-	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	0.48 U	-	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	0.48 U	-	-	-	-	-	-	-	0.50 U	-	-
General Chemistry														
Cyanide (total)	µg/L	10 U	-	10 U	-	10 U	10 U	10 U	10 U	-	-	10 U	-	10 U

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

**Analytical Results Summary - Groundwater
Former East Chicago Refinery**

Sample Location:	MW-2B	MW-2B	MW-2B	MW-2B	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A
Sample ID:	GW-120607-SP-011	GW-030608-KW-013	GW-060211-JH-27	GW-110211-JH-37	GW-022607-JO-001	GW-022607-JO-002	GW-032607-JO-013	GW-060607-JO-12	GW-120607-SP-013	GW-030708-KW-016	GW-103008-KW-006	GW-080510-TW-11	GW-060611-JH-47	GW-110211-JH-35
Sample Date:	12/6/2007	3/6/2008	6/2/2011	11/2/2011	2/26/2007	2/26/2007	3/26/2007	6/6/2007	12/6/2007	3/7/2008	10/30/2008	8/5/2010	6/6/2011	11/2/2011
Parameters	Units													
Volatile Organic Compounds														
1,1,1-Trichloroethane	µg/L	2.0 U	1.0 U	-	1.0 U	1.7 U	1.7 U	-	1.0 U	2.5 U	1.0 U	-	-	2.5 U
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
1,1,2-Trichloroethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
1,1-Dichloroethane	µg/L	2.0 U	1.0 U	-	1.0 U	1.7 U	1.7 U	-	1.0 U	2.5 U	1.0 U	-	-	2.5 U
1,1-Dichloroethene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
1,2,4-Trichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	-	-	5.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	2.0 U	1.0 U	-	1.0 U	1.7 U	1.7 U	-	1.0 U	2.5 U	1.0 U	-	-	2.5 U
1,2-Dichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
1,2-Dichloroethane	µg/L	2.0 U	1.0 U	-	1.0 U	1.7 U	1.7 U	-	1.0 U	2.5 U	1.0 U	-	-	2.5 U
1,2-Dichloropropane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
1,3-Dichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
1,4-Dichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
1,4-Dioxane	µg/L	400 U	200 U	-	-	330 U	330 U	-	200 U	500 U	200 U	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	20 U	1.3 J	-	10 U	17 U	17 U	-	4.5 J	25 U	10 U	-	-	25 U
2-Hexanone	µg/L	-	-	-	10 U	-	-	-	-	-	-	-	-	25 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	-	10 U	-	-	-	-	-	-	-	-	25 U
Acetone	µg/L	-	-	-	10 U	-	-	-	-	-	-	-	-	25 U
Benzene	µg/L	2.0 U	1.0 U	-	1.0 U	1.1 J	1.1 J	-	1.4	0.86 J	1.0 U	-	-	2.5 U
Bromodichloromethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Bromoform	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Bromomethane (Methyl bromide)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Carbon disulfide	µg/L	2.0 U	1.0 U	-	1.0 U	1.7 U	1.7 U	-	1.0 U	2.5 U	1.4 U	-	-	2.5 U
Carbon tetrachloride	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Chlorobenzene	µg/L	2.0 U	1.0 U	-	1.0 U	1.7 U	1.7 U	-	1.0 U	2.5 U	1.0 U	-	-	2.5 U
Chloroethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Chloroform (Trichloromethane)	µg/L	2.0 U	1.0 U	-	1.0 U	1.7 U	1.7 U	-	1.0 U	2.5 U	1.0 U	-	-	2.5 U
Chloromethane (Methyl chloride)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
cis-1,2-Dichloroethene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
cis-1,3-Dichloropropene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Cyclohexane	µg/L	-	-	-	1.2	-	-	-	-	-	-	-	-	70
Dibromochloromethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Ethylbenzene	µg/L	2.0 U	0.24 J	-	1.0 U	1.7 U	1.7 U	-	0.19 J	2.5 U	1.0 U	-	-	2.5 U
Isopropyl benzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Methyl acetate	µg/L	-	-	-	10 U	-	-	-	-	-	-	-	-	25 U
Methyl cyclohexane	µg/L	-	-	-	4.8	-	-	-	-	-	-	-	-	39
Methyl tert butyl ether (MTBE)	µg/L	10 U	5.0 U	-	5.0 U	8.4 U	8.4 U	-	5.0 U	12 U	5.0 U	-	-	13 U
Methylene chloride	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Styrene	µg/L	2.0 U	1.0 U	-	1.0 U	1.7 U	1.7 U	-	1.0 U	2.5 U	1.0 U	-	-	2.5 U
Tetrachloroethene	µg/L	2.0 U	1.0 U	-	1.0 U	1.7 U	1.7 U	-	1.0 U	2.5 U	1.0 U	-	-	2.5 U
Toluene	µg/L	2.0 U	1.0 U	-	1.0 U	0.97 J	0.86 J	-	1.4	1.5 J	0.44 J	-	-	2.5 U
trans-1,2-Dichloroethene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
trans-1,3-Dichloropropene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Trichloroethene	µg/L	2.0 U	1.0 U	-	1.0 U	1.7 U	1.7 U	-	1.0 U	2.5 U	1.0 U	-	-	2.5 U
Trichlorofluoromethane (CFC-11)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Trifluorotrichloroethane (CFC-113)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Vinyl chloride	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	-	-	2.5 U
Xylenes (total)	µg/L	4.0 U	2.0 U	-	2.0 U	2.5 J	2.4 J	-	3.8	3.2 J	2.3	-	-	5.0 U
Volatile Organic Compounds - BTEX														
Benzene	µg/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	-	-	1.0 U	-	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	-	1.0 U	-	-	-	-	-	-	-	1.2	1.0 U	1.0 U
Xylenes (total)	ug/L	-	-	2.0 U	-	-	-	-	-	-	-	3.7	2.0	2.0 U

**Analytical Results Summary - Groundwater
Former East Chicago Refinery**

Sample Location:	MW-2B	MW-2B	MW-2B	MW-2B	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A
Sample ID:	GW-120607-SP-011	GW-030608-KW-013	GW-060211-JH-27	GW-110211-JH-37	GW-022607-JO-001	GW-022607-JO-002	GW-032607-JO-013	GW-060607-JO-12	GW-120607-SP-013	GW-030708-KW-016	GW-103008-KW-006	GW-080510-TW-11	GW-060611-JH-47	GW-110211-JH-35
Sample Date:	12/6/2007	3/6/2008	6/2/2011	11/2/2011	2/26/2007	2/26/2007	3/26/2007	6/6/2007	12/6/2007	3/7/2008	10/30/2008	8/5/2010	6/6/2011	11/2/2011
Parameters	Units													
Semi-volatile Organic Compounds														
1,2-Dichlorobenzene	µg/L	10 U	25 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-
1,3-Dichlorobenzene	µg/L	10 U	25 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-
1,4-Dichlorobenzene	µg/L	10 U	25 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
2,4,5-Trichlorophenol	µg/L	-	-	-	20 U	-	-	-	-	-	-	-	-	5.0 U
2,4,6-Trichlorophenol	µg/L	-	-	-	20 U	-	-	-	-	-	-	-	-	5.0 U
2,4-Dichlorophenol	µg/L	-	-	-	7.9 U	-	-	-	-	-	-	-	-	2.0 U
2,4-Dimethylphenol	µg/L	10 U	25 U	-	7.9 U	-	10 U	10 U	10 U	10 U	-	-	-	2.0 U
2,4-Dinitrophenol	µg/L	50 U	120 U	-	20 U	-	50 U	50 U	50 U	50 U	-	-	-	5.0 U
2,4-Dinitrotoluene	µg/L	-	-	-	20 U	-	-	-	-	-	-	-	-	5.0 U
2,6-Dinitrotoluene	µg/L	-	-	-	20 U	-	-	-	-	-	-	-	-	5.0 U
2-Chloronaphthalene	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
2-Chlorophenol	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
2-Methylnaphthalene	µg/L	-	-	-	1.2	-	-	-	-	-	-	-	-	0.20 U
2-Methylphenol	µg/L	10 U	25 U	-	4.0 U	-	10 U	10 U	10 U	10 U	-	-	-	1.0 U
2-Nitroaniline	µg/L	-	-	-	7.9 U	-	-	-	-	-	-	-	-	2.0 U
2-Nitrophenol	µg/L	-	-	-	7.9 U	-	-	-	-	-	-	-	-	2.0 U
3&4-Methylphenol	µg/L	-	-	-	7.9 U	-	-	-	-	-	-	-	-	2.0 U
3,3'-Dichlorobenzidine	µg/L	-	-	-	20 U	-	-	-	-	-	-	-	-	5.0 U
3-Methylphenol	µg/L	10 U	25 U	-	-	-	3.0 J	1.3 J	10 U	10 U	-	-	-	-
3-Nitroaniline	µg/L	-	-	-	7.9 U	-	-	-	-	-	-	-	-	2.0 U
4,6-Dinitro-2-methylphenol	µg/L	-	-	-	20 U	-	-	-	-	-	-	-	-	5.0 U
4-Bromophenyl phenyl ether	µg/L	-	-	-	7.9 U	-	-	-	-	-	-	-	-	2.0 U
4-Chloro-3-methylphenol	µg/L	-	-	-	7.9 U	-	-	-	-	-	-	-	-	2.0 U
4-Chloroaniline	µg/L	-	-	-	7.9 U	-	-	-	-	-	-	-	-	2.0 U
4-Chlorophenyl phenyl ether	µg/L	-	-	-	7.9 U	-	-	-	-	-	-	-	-	2.0 U
4-Methylphenol	µg/L	10 U	25 U	-	-	-	3.0 J	1.3 J	10 U	10 U	-	-	-	-
4-Nitroaniline	µg/L	-	-	-	7.9 U	-	-	-	-	-	-	-	-	2.0 U
4-Nitrophenol	µg/L	50 U	120 U	-	20 U	-	50 U	50 U	50 U	50 U	-	-	-	5.0 U
Acenaphthene	µg/L	10 U	25 U	-	0.79 U	-	0.84 J	0.72 J	1.2 J	10 U	-	-	-	0.20 U
Acenaphthylene	µg/L	-	-	-	0.79 U	-	-	-	-	-	-	-	-	0.20 U
Acetophenone	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Anthracene	µg/L	10 U	25 U	-	0.79 U	-	10 U	10 U	10 U	10 U	-	-	-	0.20 U
Atrazine	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Benzaldehyde	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Benzo(a)anthracene	µg/L	10 U	25 U	-	0.79 U	-	10 U	10 U	10 U	10 U	-	-	-	0.20 U
Benzo(a)pyrene	µg/L	10 U	25 U	-	0.79 U	-	10 U	10 U	10 U	10 U	-	-	-	0.20 U
Benzo(b)fluoranthene	µg/L	10 U	25 U	-	0.79 U	-	10 U	10 U	10 U	10 U	-	-	-	0.20 U
Benzo(b)pyridine (Quinoline)	µg/L	10 U	25 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	0.79 U	-	-	-	-	-	-	-	-	0.20 U
Benzo(k)fluoranthene	µg/L	10 U	25 U	-	0.79 U	-	10 U	10 U	10 U	10 U	-	-	-	0.20 U
Biphenyl (1,1-Biphenyl)	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
bis(2-Chloroethoxy)methane	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
bis(2-Chloroethyl)ether	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	10 U	25 U	-	7.9 U	-	10 U	28 U	10 U	10 U	-	-	-	2.0 U
Butyl benzylphthalate (BBP)	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Caprolactam	µg/L	-	-	-	20 U	-	-	-	-	-	-	-	-	5.0 U
Carbazole	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Chrysene	µg/L	10 U	25 U	-	0.79 U	-	10 U	10 U	10 U	10 U	-	-	-	0.20 U
Dibenz(a,h)anthracene	µg/L	10 U	25 U	-	0.79 U	-	10 U	10 U	10 U	10 U	-	-	-	0.20 U
Dibenzofuran	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Diethyl phthalate	µg/L	10 U	25 U	-	4.0 U	-	10 U	10 U	10 U	10 U	-	-	-	1.0 U
Dimethyl phthalate	µg/L	10 U	25 U	-	4.0 U	-	10 U	10 U	10 U	10 U	-	-	-	1.0 U
Di-n-butylphthalate (DBP)	µg/L	10 U	25 U	-	4.0 U	-	10 U	10 U	10 U	10 U	-	-	-	1.0 U
Di-n-octyl phthalate (DnOP)	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Fluoranthene	µg/L	10 U	25 U	-	0.79 U	-	10 U	10 U	10 U	10 U	-	-	-	0.20 U
Fluorene	µg/L	1.7 J	1.0 J	-	0.79 U	-	0.52 J	0.79 J	0.91 J	10 U	-	-	-	0.66
Hexachlorobenzene	µg/L	-	-	-	0.79 U	-	-	-	-	-	-	-	-	0.20 U
Hexachlorobutadiene	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Hexachlorocyclopentadiene	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Hexachloroethane	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Indeno(1,2,3-cd)pyrene	µg/L	10 U	25 U	-	0.79 U	-	10 U	10 U	10 U	10 U	-	-	-	0.20 U
Isophorone	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Naphthalene	µg/L	10 U	25 U	-	0.79 U	-	10 U	10 U	10 U	58	-	-	-	0.20 U
Nitrobenzene	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
N-Nitrosodi-n-propylamine	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
N-Nitrosodiphenylamine	µg/L	-	-	-	4.0 U	-	-	-	-	-	-	-	-	1.0 U
Pentachlorophenol	µg/L	-	-	-	20 U	-	-	-	-	-	-	-	-	5.0 U
Phenanthrene	µg/L	7.8 J	8.3 J	-	4.1	-	0.24 J	10 U	10 U	10 U	-	-	-	0.20 U
Phenol	µg/L	10 U	25 U	-	4.0 U	-	10 U	10 U	10 U	10 U	-	-	-	1.0 U
Pyrene	µg/L	0.91 J	1.1 J	-	0.84	-	0.41 J	10 U	10 U	10 U	-	-	-	0.20 U
Pyridine	µg/L	20 U	50 U	-	-	-	20 U	20 U	20 U	20 U	-	-	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-2B	MW-2B	MW-2B	MW-2B	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	MW-3A	
Sample ID:	GW-120607-SP-011	GW-030608-KW-013	GW-060211-JH-27	GW-110211-JH-37	GW-022607-JO-001	GW-022607-JO-002	GW-032607-JO-013	GW-060607-JO-12	GW-120607-SP-013	GW-030708-KW-016	GW-103008-KW-006	GW-080510-TW-11	GW-060611-JH-47	GW-110211-JH-35	
Sample Date:	12/6/2007	3/6/2008	6/2/2011	11/2/2011	2/26/2007	2/26/2007	3/26/2007	6/6/2007	12/6/2007	3/7/2008	10/30/2008	8/5/2010	6/6/2011	11/2/2011	
Parameters	Units														
Metals															
Aluminum	µg/L	-	-	-	200 U	-	-	-	-	-	-	-	-	-	200 U
Antimony	µg/L	60.0 U	60.0 U	-	10 U	-	-	60.0 U	4.7 J	60.0 U	60.0 U	-	-	-	10 U
Arsenic	µg/L	35.5	34.2	-	41	-	-	5.4 J	7.0 J	6.9 J	8.4 J	-	10.0 U	-	10 U
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	-	-	-	-	10.7	-	-	-
Barium	µg/L	362	372	-	380	-	-	17.0 J	17.5 J	19.4 J	34.2 J	-	-	-	200 U
Beryllium	µg/L	5.0 U	5.0 U	-	5.0 U	-	-	5.0 U	0.42 J	5.0 U	5.0 U	-	-	-	5.0 U
Cadmium	µg/L	5.0 U	5.0 U	-	2.0 U	-	-	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	2.0 U
Calcium	µg/L	-	-	-	160000	-	-	-	-	-	-	-	-	-	71000
Chromium	µg/L	10.0 U	10.0 U	-	5.0 U	-	-	10.0 U	10.0 U	10.0 U	10.0 U	-	-	-	5.0 U
Cobalt	µg/L	50.0 U	50.0 U	-	7.0 U	-	-	50.0 U	1.4 J	50.0 U	50.0 U	-	-	-	7.0 U
Copper	µg/L	-	-	-	25 U	-	-	-	-	-	-	-	-	-	25 U
Iron	µg/L	-	-	-	9800	-	-	-	-	-	-	-	-	-	6800
Lead	µg/L	3.0 U	3.0 U	-	3.0 U	-	-	3.0 U	3.0 U	3.0 U	3.0 U	-	-	-	3.0 U
Magnesium	µg/L	-	-	-	33000	-	-	-	-	-	-	-	-	-	17000
Manganese	µg/L	-	-	-	46	-	-	-	-	-	-	-	-	-	240
Mercury	µg/L	0.20 U	0.20 U	-	0.20 U	-	-	0.20 U	0.20 U	0.20 U	0.20 U	-	-	-	0.20 U
Nickel	µg/L	40.0 U	40.0 U	-	40 U	-	-	40.0 U	40.0 U	40.0 U	40.0 U	-	-	-	40 U
Potassium	µg/L	-	-	-	5700	-	-	-	-	-	-	-	-	-	5000 U
Selenium	µg/L	5.0 U	5.0 U	-	5.0 U	-	-	3.4 J	5.0 U	5.0 U	5.0 U	-	-	-	5.0 U
Silver	µg/L	10.0 U	10.0 U	-	5.0 U	-	-	10.0 U	10.0 U	10.0 U	10.0 U	-	-	-	5.0 U
Sodium	µg/L	-	-	-	27000	-	-	-	-	-	-	-	-	-	5000 U
Thallium	µg/L	-	-	-	10 U	-	-	-	-	-	-	-	-	-	10 U
Vanadium	µg/L	50.0 U	50.0 U	-	7.0 U	-	-	50.0 U	50.0 U	50.0 U	50.0 U	0.98 J	-	-	7.0 U
Zinc	µg/L	20.0 U	20.0 U	-	50 U	-	-	20.0 U	20.0 U	20.0 U	20.0 U	5.6 J	-	-	50 U
PCBs															
Aroclor-1016 (PCB-1016)	µg/L	-	-	-	0.50 U	-	-	-	-	-	-	-	-	-	0.53 U
Aroclor-1221 (PCB-1221)	µg/L	-	-	-	0.50 U	-	-	-	-	-	-	-	-	-	0.53 U
Aroclor-1232 (PCB-1232)	µg/L	-	-	-	0.50 U	-	-	-	-	-	-	-	-	-	0.53 U
Aroclor-1242 (PCB-1242)	µg/L	-	-	-	0.50 U	-	-	-	-	-	-	-	-	-	0.53 U
Aroclor-1248 (PCB-1248)	µg/L	-	-	-	0.50 U	-	-	-	-	-	-	-	-	-	0.53 U
Aroclor-1254 (PCB-1254)	µg/L	-	-	-	0.50 U	-	-	-	-	-	-	-	-	-	0.53 U
Aroclor-1260 (PCB-1260)	µg/L	-	-	-	0.50 U	-	-	-	-	-	-	-	-	-	0.53 U
General Chemistry															
Cyanide (total)	µg/L	10 U	10 U	-	10 U	-	-	10 U	10 U	10 U	10 U	-	-	-	10 U

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	
Sample ID:	GW-022607-JO-003	GW-032607-JO-014	GW-060607-JO-13	GW-120607-SP-014	GW-030708-KW-017	GW-103008-KW-007	GW-060611-JH-48	GW-110211-JH-33	GW-032107-JO-015	GW-060707-JO-18	GW-120407-SP-001	GW-030508-KW-001	GW-102908-KW-001	GW-080610-TW-15	
Sample Date:	2/26/2007	3/26/2007	6/6/2007	12/6/2007	3/7/2008	10/30/2008	6/6/2011	11/2/2011	3/21/2007	6/7/2007	12/4/2007	3/5/2008	10/29/2008	8/6/2010	
Parameters	Units														
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
1,1-Dichloroethane	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-
1,1-Dichloroethene	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-
1,2-Dichloropropane	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
1,4-Dioxane	µg/L	200 U	-	200 U	200 U	200 U	-	-	-	200 U	200 U	200 U	200 U	200 U	-
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	-	10 U	10 U	10 U	-	-	10 U	10 U	10 U	10 U	10 U	10 U	-
2-Hexanone	µg/L	-	-	-	-	-	-	-	10 U	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	-	-	-	-	-	10 U	-	-	-	-	-	-
Acetone	µg/L	-	-	-	-	-	-	-	10 U	-	-	-	-	-	-
Benzene	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-
Bromodichloromethane	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Bromoform	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Bromomethane (Methyl bromide)	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Carbon disulfide	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-
Carbon tetrachloride	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Chlorobenzene	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-
Chloroethane	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Chloroform (Trichloromethane)	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-
Chloromethane (Methyl chloride)	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
cis-1,2-Dichloroethene	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
cis-1,3-Dichloropropene	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Cyclohexane	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Dibromochloromethane	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Ethylbenzene	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-
Isopropyl benzene	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Methyl acetate	µg/L	-	-	-	-	-	-	-	10 U	-	-	-	-	-	-
Methyl cyclohexane	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	µg/L	5.0 U	-	5.0 U	5.0 U	5.0 U	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Methylene chloride	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Styrene	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-
Tetrachloroethene	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-
Toluene	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-
trans-1,2-Dichloroethene	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
trans-1,3-Dichloropropene	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Trichloroethene	µg/L	1.0 U	-	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-
Trichlorofluoromethane (CFC-11)	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Trifluorotrchloroethane (CFC-113)	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Vinyl chloride	µg/L	-	-	-	-	-	-	-	1.0 U	-	-	-	-	-	-
Xylenes (total)	µg/L	2.0 U	-	2.0 U	2.0 U	2.0 U	-	-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	-
Volatile Organic Compounds - BTEX															
Benzene	µg/L	-	-	-	-	-	1.0 U	1.0 U	-	-	-	-	-	1.0 U	1.0 U
Ethylbenzene	ug/L	-	-	-	-	-	1.0 U	1.0 U	-	-	-	-	-	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	-	-	-	-	1.0 U	1.0 U	-	-	-	-	-	1.0 U	1.0 U
Xylenes (total)	ug/L	-	-	-	-	-	2.0 U	2.0 U	-	-	-	-	-	2.0 U	2.0 U

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4	
Sample ID:	GW-022607-JO-003	GW-032607-JO-014	GW-060607-JO-13	GW-120607-SP-014	GW-030708-KW-017	GW-103008-KW-007	GW-060611-JH-48	GW-110211-JH-33	GW-032107-JO-015	GW-060707-JO-18	GW-120407-SP-001	GW-030508-KW-001	GW-102908-KW-001	GW-080610-TW-15	
Sample Date:	2/26/2007	3/26/2007	6/6/2007	12/6/2007	3/7/2008	10/30/2008	6/6/2011	11/2/2011	3/21/2007	6/7/2007	12/4/2007	3/5/2008	10/29/2008	8/6/2010	
Parameters	Units														
Semi-volatile Organic Compounds															
1,2-Dichlorobenzene	µg/L	-	10 U	10 U	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-
1,3-Dichlorobenzene	µg/L	-	10 U	10 U	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-
1,4-Dichlorobenzene	µg/L	-	10 U	10 U	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	µg/L	-	-	-	-	-	-	5.0 U	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	µg/L	-	-	-	-	-	-	5.0 U	-	-	-	-	-	-	-
2,4-Dichlorophenol	µg/L	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-	-
2,4-Dimethylphenol	µg/L	-	10 U	10 U	10 U	10 U	-	2.0 U	10 U	10 U	10 U	10 U	10 U	-	-
2,4-Dinitrophenol	µg/L	-	50 U	50 U	50 U	50 U	-	5.0 U	50 U	50 U	50 U	50 U	50 U	-	-
2,4-Dinitrotoluene	µg/L	-	-	-	-	-	-	5.0 U	-	-	-	-	-	-	-
2,6-Dinitrotoluene	µg/L	-	-	-	-	-	-	5.0 U	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
2-Chlorophenol	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	-	-	-	0.20 U	-	-	-	-	-	-	-
2-Methylphenol	µg/L	-	10 U	10 U	10 U	10 U	-	0.99 U	10 U	10 U	10 U	10 U	10 U	-	-
2-Nitroaniline	µg/L	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-	-
2-Nitrophenol	µg/L	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-	-
3&4-Methylphenol	µg/L	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	-	-	-	-	-	5.0 U	-	-	-	-	-	-	-
3-Methylphenol	µg/L	-	10 U	10 U	10 U	10 U	-	-	10 U	10 U	10 U	10 U	10 U	-	-
3-Nitroaniline	µg/L	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	-	-	-	-	-	5.0 U	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	µg/L	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-	-
4-Chloroaniline	µg/L	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-	-
4-Methylphenol	µg/L	-	10 U	10 U	10 U	10 U	-	-	10 U	10 U	10 U	10 U	10 U	-	-
4-Nitroaniline	µg/L	-	-	-	-	-	-	2.0 U	-	-	-	-	-	-	-
4-Nitrophenol	µg/L	-	50 U	50 U	50 U	50 U	-	5.0 U	50 U	50 U	50 U	50 U	50 U	-	-
Acenaphthene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Acenaphthylene	µg/L	-	-	-	-	-	-	0.20 U	-	-	-	-	-	-	-
Acetophenone	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Anthracene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Atrazine	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Benzaldehyde	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Benzo(a)anthracene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Benzo(a)pyrene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Benzo(b)fluoranthene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Benzo(b)pyridine (Quinoline)	µg/L	-	10 U	10 U	10 U	10 U	-	-	10 U	10 U	10 U	10 U	10 U	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	0.20 U	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Biphenyl (1,1-Biphenyl)	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	10 U	10 U	10 U	10 U	-	2.0 U	1.2 J	10 U	10 U	10 U	10 U	-	-
Butyl benzylphthalate (BBP)	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Caprolactam	µg/L	-	-	-	-	-	-	5.0 U	-	-	-	-	-	-	-
Carbazole	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Chrysene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Dibenz(a,h)anthracene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Dibenzofuran	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Diethyl phthalate	µg/L	-	10 U	10 U	10 U	10 U	-	0.99 U	10 U	10 U	10 U	10 U	10 U	-	-
Dimethyl phthalate	µg/L	-	10 U	10 U	10 U	10 U	-	0.99 U	10 U	10 U	10 U	10 U	10 U	-	-
Di-n-butylphthalate (DBP)	µg/L	-	10 U	10 U	10 U	10 U	-	0.99 U	10 U	10 U	10 U	10 U	10 U	-	-
Di-n-octyl phthalate (DnOP)	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Fluoranthene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Fluorene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Hexachlorobenzene	µg/L	-	-	-	-	-	-	0.20 U	-	-	-	-	-	-	-
Hexachlorobutadiene	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	µg/L	-	-	-	-	-	-	9.9 U	-	-	-	-	-	-	-
Hexachloroethane	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Isophorone	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Naphthalene	µg/L	-	10 U	10 U	10 U	0.30 J	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Nitrobenzene	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	µg/L	-	-	-	-	-	-	0.99 U	-	-	-	-	-	-	-
Pentachlorophenol	µg/L	-	-	-	-	-	-	5.0 U	-	-	-	-	-	-	-
Phenanthrene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Phenol	µg/L	-	10 U	10 U	10 U	10 U	-	0.99 U	10 U	10 U	10 U	10 U	10 U	-	-
Pyrene	µg/L	-	10 U	10 U	10 U	10 U	-	0.20 U	10 U	10 U	10 U	10 U	10 U	-	-
Pyridine	µg/L	-	20 U	20 U	20 U	20 U	-	-	20 U	20 U	20 U	20 U	20 U	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-3B	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4
Sample ID:	GW-022607-JO-003	GW-032607-JO-014	GW-060607-JO-13	GW-120607-SP-014	GW-030708-KW-017	GW-103008-KW-007	GW-060611-JH-48	GW-110211-JH-33	GW-032107-JO-015	GW-060707-JO-18	GW-120407-SP-001	GW-030508-KW-001	GW-102908-KW-001	GW-080610-TW-15
Sample Date:	2/26/2007	3/26/2007	6/6/2007	12/6/2007	3/7/2008	10/30/2008	6/6/2011	11/2/2011	3/21/2007	6/7/2007	12/4/2007	3/5/2008	10/29/2008	8/6/2010
Parameters	Units													
Metals														
Aluminum	µg/L	-	-	-	-	-	-	-	200 U	-	-	-	-	-
Antimony	µg/L	-	60.0 U	5.2 J	60.0 U	4.5 J	-	-	10 U	60.0 U	60.0 U	60.0 U	60.0 U	-
Arsenic	µg/L	-	31.1	34.7	64.7	35.5	-	-	39	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Arsenic (dissolved)	µg/L	-	-	-	-	-	42.9	-	-	-	-	-	-	3.3 J
Barium	µg/L	-	262	281	38.3 J	261	-	-	240	19.5 J	13.2 J	19.0 J	9.5 J	-
Beryllium	µg/L	-	5.0 U	0.41 J	5.0 U	5.0 U	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Cadmium	µg/L	-	5.0 U	5.0 U	5.0 U	5.0 U	-	-	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Calcium	µg/L	-	-	-	-	-	-	-	140000	-	-	-	-	-
Chromium	µg/L	-	10.0 U	10.0 U	10.0 U	10.0 U	-	-	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-
Cobalt	µg/L	-	50.0 U	50.0 U	50.0 U	50.0 U	-	-	7.0 U	50.0 U	1.3 J	50.0 U	50.0 U	-
Copper	µg/L	-	-	-	-	-	-	-	25 U	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	-	-	7600	-	-	-	-	-
Lead	µg/L	-	3.0 U	3.0 U	3.0 U	3.0 U	-	-	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	-
Magnesium	µg/L	-	-	-	-	-	-	-	34000	-	-	-	-	-
Manganese	µg/L	-	-	-	-	-	-	-	48	-	-	-	-	-
Mercury	µg/L	-	0.20 U	0.20 U	0.20 U	0.20 U	-	-	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	-
Nickel	µg/L	-	40.0 U	40.0 U	40.0 U	40.0 U	-	-	40 U	2.3 J	40.0 U	40.0 U	40.0 U	-
Potassium	µg/L	-	-	-	-	-	-	-	5000 U	-	-	-	-	-
Selenium	µg/L	-	5.0 U	5.0 U	5.0 U	5.0 U	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Silver	µg/L	-	10.0 U	10.0 U	10.0 U	10.0 U	-	-	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-
Sodium	µg/L	-	-	-	-	-	-	-	27000	-	-	-	-	-
Thallium	µg/L	-	-	-	-	-	-	-	10 U	-	-	-	-	-
Vanadium	µg/L	-	50.0 U	50.0 U	50.0 U	50.0 U	-	-	7.0 U	50.0 U	50.0 U	1.6 J	50.0 U	-
Zinc	µg/L	-	20.0 U	20.0 U	20.0 U	5.5 J	-	-	50 U	277	61.7	26.3	20.0 U	-
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	-	-	-	-	-	-	0.50 U	-	-	-	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	-	-	-	-	-	0.50 U	-	-	-	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	-	-	-	-	-	0.50 U	-	-	-	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	-	-	-	-	-	0.50 U	-	-	-	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	-	-	-	-	-	0.50 U	-	-	-	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	-	-	-	-	-	0.50 U	-	-	-	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	-	-	-	-	-	0.50 U	-	-	-	-	-
General Chemistry														
Cyanide (total)	µg/L	-	10 U	10 U	10 U	10 U	-	-	10 U	10 U	10 U	10 U	10 U	-

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

**Analytical Results Summary - Groundwater
Former East Chicago Refinery**

Sample Location:	MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-6	
Sample ID:	GW-060111-JH-06	GW-110111-JH-19	GW-032107-JO-016	GW-060707-JO-17	GW-120407-SP-002	GW-030508-KW-002	GW-102908-KW-002	GW-080610-TW-14	GW-060111-JH-07	GW-110111-JH-21	GW-032607-JO-019	GW-060707-JO-16	GW-120507-SP-004	GW-030508-KW-003	
Sample Date:	6/1/2011	11/1/2011	3/21/2007	6/7/2007	12/4/2007	3/5/2008	10/29/2008	8/6/2010	6/1/2011	11/1/2011	3/26/2007	6/7/2007	12/5/2007	3/5/2008	
Parameters	Units														
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,1,2-Trichloroethane	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,1-Dichloroethane	µg/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,2,4-Trichlorobenzene	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	2.0 U	-	-	-	-	-	-	-	2.0 U	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,2-Dichloroethane	µg/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,4-Dioxane	µg/L	-	-	200 U	200 U	200 U	200 U	-	-	-	-	200 U	200 U	200 U	200 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	10 U	1.5 J	10 U	10 U	10 U	-	-	-	10 U	10 U	1.1 J	10 U	10 U
2-Hexanone	µg/L	-	10 U	-	-	-	-	-	-	-	10 U	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	10 U	-	-	-	-	-	-	-	10 U	-	-	-	-
Acetone	µg/L	-	10 U	-	-	-	-	-	-	-	10 U	-	-	-	-
Benzene	µg/L	-	1.0 U	1.9	0.62 J	1.0 U	0.84 J	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Bromoform	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Bromomethane (Methyl bromide)	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Carbon disulfide	µg/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Chlorobenzene	µg/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Chloroform (Trichloromethane)	µg/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
cis-1,2-Dichloroethene	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
cis-1,3-Dichloropropene	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Cyclohexane	µg/L	-	1.0 U	-	-	-	-	-	-	-	11	-	-	-	-
Dibromochloromethane	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Dichlorodifluoromethane (CFC-12)	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Ethylbenzene	µg/L	-	1.0 U	1.2	1.3	0.23 J	0.24 J	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	-	1.0 U	-	-	-	-	-	-	-	6.2	-	-	-	-
Methyl acetate	µg/L	-	10 U	-	-	-	-	-	-	-	10 U	-	-	-	-
Methyl cyclohexane	µg/L	-	1.0 U	-	-	-	-	-	-	-	15	-	-	-	-
Methyl tert butyl ether (MTBE)	µg/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Styrene	µg/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	-	1.0 U	1.2	0.66 J	1.3	1.1	-	-	-	1.2	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
trans-1,3-Dichloropropene	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Trichloroethene	µg/L	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Trifluorotrchloroethane (CFC-113)	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Vinyl chloride	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Xylenes (total)	µg/L	-	2.0 U	7.8	5.2	7.1	8.4	-	-	-	7.1	2.0 U	2.0 U	2.0 U	2.0 U
Volatile Organic Compounds - BTEX															
Benzene	µg/L	1.0 U	-	-	-	-	-	1.0 U	1.0 U	1.0 U	-	-	-	-	-
Ethylbenzene	ug/L	1.0 U	-	-	-	-	-	1.0 U	1.0 U	1.0 U	-	-	-	-	-
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	1.0 U	-	-	-	-	-	0.76 J	1.0 U	1.0 U	-	-	-	-	-
Xylenes (total)	ug/L	2.0 U	-	-	-	-	-	3.7	2.4	4.2	-	-	-	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-6	
Sample ID:	GW-060111-JH-06	GW-110111-JH-19	GW-032107-JO-016	GW-060707-JO-17	GW-120407-SP-002	GW-030508-KW-002	GW-102908-KW-002	GW-080610-TW-14	GW-060111-JH-07	GW-110111-JH-21	GW-032607-JO-019	GW-060707-JO-16	GW-120507-SP-004	GW-030508-KW-003	
Sample Date:	6/1/2011	11/1/2011	3/21/2007	6/7/2007	12/4/2007	3/5/2008	10/29/2008	8/6/2010	6/1/2011	11/1/2011	3/26/2007	6/7/2007	12/5/2007	3/5/2008	
Parameters	Units														
Semi-volatile Organic Compounds															
1,2-Dichlorobenzene	µg/L	-	-	25 U	10 U	25 UJ	10 U	-	-	-	-	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	µg/L	-	-	25 U	10 U	25 UJ	10 U	-	-	-	-	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	µg/L	-	-	25 U	10 U	25 UJ	10 U	-	-	-	-	10 U	10 U	10 U	10 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
2,4,5-Trichlorophenol	µg/L	-	5.2 U	-	-	-	-	-	-	-	4.9 U	-	-	-	-
2,4,6-Trichlorophenol	µg/L	-	5.2 U	-	-	-	-	-	-	-	4.9 U	-	-	-	-
2,4-Dichlorophenol	µg/L	-	2.1 U	-	-	-	-	-	-	-	1.9 U	-	-	-	-
2,4-Dimethylphenol	µg/L	-	2.1 U	3.3 J	10 U	25 UJ	10 U	-	-	-	1.9 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	µg/L	-	5.2 U	120 U	50 U	120 UJ	50 U	-	-	-	4.9 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	µg/L	-	5.2 U	-	-	-	-	-	-	-	4.9 U	-	-	-	-
2,6-Dinitrotoluene	µg/L	-	5.2 U	-	-	-	-	-	-	-	4.9 U	-	-	-	-
2-Chloronaphthalene	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
2-Chlorophenol	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
2-Methylnaphthalene	µg/L	-	0.21 U	-	-	-	-	-	-	-	0.19 U	-	-	-	-
2-Methylphenol	µg/L	-	1.0 U	12 J	10 U	25 UJ	10 U	-	-	-	0.97 U	10 U	10 U	10 U	10 U
2-Nitroaniline	µg/L	-	2.1 U	-	-	-	-	-	-	-	1.9 U	-	-	-	-
2-Nitrophenol	µg/L	-	2.1 U	-	-	-	-	-	-	-	1.9 U	-	-	-	-
3&4-Methylphenol	µg/L	-	2.1 U	-	-	-	-	-	-	-	1.9 U	-	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	R	-	-	-	-	-	-	-	4.9 U	-	-	-	-
3-Methylphenol	µg/L	-	-	10 J	10 U	25 UJ	10 U	-	-	-	-	10 U	10 U	10 U	10 U
3-Nitroaniline	µg/L	-	2.1 U	-	-	-	-	-	-	-	1.9 U	-	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	5.2 U	-	-	-	-	-	-	-	4.9 U	-	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	2.1 U	-	-	-	-	-	-	-	1.9 U	-	-	-	-
4-Chloro-3-methylphenol	µg/L	-	2.1 U	-	-	-	-	-	-	-	1.9 U	-	-	-	-
4-Chloroaniline	µg/L	-	2.1 U	-	-	-	-	-	-	-	1.9 U	-	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	2.1 U	-	-	-	-	-	-	-	1.9 U	-	-	-	-
4-Methylphenol	µg/L	-	-	10 J	10 U	25 UJ	10 U	-	-	-	-	10 U	10 U	10 U	10 U
4-Nitroaniline	µg/L	-	2.1 U	-	-	-	-	-	-	-	1.9 U	-	-	-	-
4-Nitrophenol	µg/L	-	5.2 U	120 U	50 U	120 UJ	50 U	-	-	-	4.9 U	50 U	50 U	50 U	50 U
Acenaphthene	µg/L	-	0.21 U	1.3 J	1.2 J	1.2 J	1.1 J	-	-	-	1.3	10 U	10 U	10 U	10 U
Acenaphthylene	µg/L	-	0.21 U	-	-	-	-	-	-	-	0.19 U	-	-	-	-
Acetophenone	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
Anthracene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Atrazine	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
Benzaldehyde	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
Benzo(a)anthracene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Benzo(b)pyridine (Quinoline)	µg/L	-	-	25 U	10 U	25 UJ	10 U	-	-	-	-	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	µg/L	-	0.21 U	-	-	-	-	-	-	-	0.19 U	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Biphenyl (1,1-Biphenyl)	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	2.1 U	25 U	2.2 J	25 UJ	10 U	-	-	-	1.9 U	10 U	1.2 J	0.94 J	10 U
Butyl benzylphthalate (BBP)	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
Caprolactam	µg/L	-	5.2 U	-	-	-	-	-	-	-	4.9 U	-	-	-	-
Carbazole	µg/L	-	1.0 U	-	-	-	-	-	-	-	1.0	-	-	-	-
Chrysene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Dibenzofuran	µg/L	-	1.0 U	-	-	-	-	-	-	-	2.9	-	-	-	-
Diethyl phthalate	µg/L	-	1.0 U	25 U	10 U	25 UJ	10 U	-	-	-	0.97 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	µg/L	-	1.0 U	25 U	10 U	25 UJ	10 U	-	-	-	0.97 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate (DBP)	µg/L	-	1.0 U	25 U	10 U	25 UJ	10 U	-	-	-	0.97 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate (DnOP)	µg/L	-	1.0 UJ	-	-	-	-	-	-	-	0.97 U	-	-	-	-
Fluoranthene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Fluorene	µg/L	-	0.21 U	3.5 J	5.0 J	5.4 J	4.3 J	-	-	-	5.9	10 U	10 U	10 U	10 U
Hexachlorobenzene	µg/L	-	0.21 U	-	-	-	-	-	-	-	0.19 U	-	-	-	-
Hexachlorobutadiene	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
Hexachlorocyclopentadiene	µg/L	-	1.0 U	-	-	-	-	-	-	-	9.7 U	-	-	-	-
Hexachloroethane	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Isophorone	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
Naphthalene	µg/L	-	0.21 U	25 U	10 U	0.68 J	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Nitrobenzene	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
N-Nitrosodiphenylamine	µg/L	-	1.0 U	-	-	-	-	-	-	-	0.97 U	-	-	-	-
Pentachlorophenol	µg/L	-	5.2 U	-	-	-	-	-	-	-	4.9 U	-	-	-	-
Phenanthrene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.59	10 U	10 U	10 U	10 U
Phenol	µg/L	-	1.0 U	15 J	10 U	25 UJ	10 U	-	-	-	0.97 U	10 U	10 U	10 U	10 U
Pyrene	µg/L	-	0.21 U	25 U	10 U	25 UJ	10 U	-	-	-	0.19 U	10 U	10 U	10 U	10 U
Pyridine	µg/L	-	-	50 U	20 U	50 UJ	20 U	-	-	-	-	20 U	20 U	20 U	20 U

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-6
Sample ID:	GW-060111-JH-06	GW-110111-JH-19	GW-032107-JO-016	GW-060707-JO-17	GW-120407-SP-002	GW-030508-KW-002	GW-102908-KW-002	GW-080610-TW-14	GW-060111-JH-07	GW-110111-JH-21	GW-032607-JO-019	GW-060707-JO-16	GW-120507-SP-004	GW-030508-KW-003
Sample Date:	6/1/2011	11/1/2011	3/21/2007	6/7/2007	12/4/2007	3/5/2008	10/29/2008	8/6/2010	6/1/2011	11/1/2011	3/26/2007	6/7/2007	12/5/2007	3/5/2008
Parameters	Units													
Metals														
Aluminum	µg/L	-	200 U	-	-	-	-	-	-	-	200 U	-	-	-
Antimony	µg/L	-	10 U	60.0 U	60.0 U	60.0 U	60.0 U	-	-	-	10 U	60.0 U	60.0 U	60.0 U
Arsenic	µg/L	-	10 U	10.0 U	10.0 U	10.0 U	10.0 U	-	10.0 U	-	10 U	10.0 U	10.0 U	10.0 U
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	4.3 J	-	-	-	-	-	-
Barium	µg/L	-	200 U	32.5 J	30.7 J	32.0 J	29.7 J	-	-	-	200 U	33.0 J	40.3 J	30.9 J
Beryllium	µg/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U
Cadmium	µg/L	-	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	2.0 U	5.0 U	5.0 U	5.0 U
Calcium	µg/L	-	76000	-	-	-	-	-	-	-	82000	-	-	-
Chromium	µg/L	-	5.0 U	1.6 J	10.0 U	2.9 J	10.0 U	-	-	-	5.0 U	10.0 U	10.0 U	10.0 U
Cobalt	µg/L	-	7.0 U	50.0 U	1.4 J	50.0 U	50.0 U	-	-	-	7.0 U	1.5 J	50.0 U	50.0 U
Copper	µg/L	-	25 U	-	-	-	-	-	-	-	25 U	-	-	-
Iron	µg/L	-	1400	-	-	-	-	-	-	-	5800	-	-	-
Lead	µg/L	-	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	-	-	-	3.0 U	3.0 U	3.0 U	3.0 U
Magnesium	µg/L	-	13000	-	-	-	-	-	-	-	8600	-	-	-
Manganese	µg/L	-	210	-	-	-	-	-	-	-	380	-	-	-
Mercury	µg/L	-	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	-	-	-	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	-	40 U	2.6 J	40.0 U	40.0 U	40.0 U	-	-	-	40 U	40.0 U	40.0 U	40.0 U
Potassium	µg/L	-	5000 U	-	-	-	-	-	-	-	5000 U	-	-	-
Selenium	µg/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U
Silver	µg/L	-	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	-	-	5.0 U	10.0 U	10.0 U	10.0 U
Sodium	µg/L	-	5000 U	-	-	-	-	-	-	-	5000 U	-	-	-
Thallium	µg/L	-	10 U	-	-	-	-	-	-	-	10 U	-	-	-
Vanadium	µg/L	-	7.0 U	2.0 J	50.0 U	2.1 J	1.6 J	-	-	-	7.0 U	50.0 U	50.0 U	0.98 J
Zinc	µg/L	-	50 U	520	40.5	20.3	20.0 U	-	-	-	50 U	113	20.0 U	20.0 U
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	0.50 U	-	-	-	-	-	-	-	0.50 U	-	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	0.50 U	-	-	-	-	-	-	-	0.50 U	-	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	0.50 U	-	-	-	-	-	-	-	0.50 U	-	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	0.50 U	-	-	-	-	-	-	-	0.50 U	-	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	0.50 U	-	-	-	-	-	-	-	0.50 U	-	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	0.50 U	-	-	-	-	-	-	-	0.50 U	-	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	0.50 U	-	-	-	-	-	-	-	0.50 U	-	-	-
General Chemistry														
Cyanide (total)	µg/L	-	10 U	10 U	10 U	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-8	MW-8	MW-8
Sample ID:	GW-102908-KW-003	GW-080610-TW-13	GW-060311-JH-36	GW-110111-JH-23	GW-032207-JO-018	GW-060707-JO-19	GW-120507-SP-003	GW-030608-KW-008	GW-080610-TW-16	GW-060611-JH-44	GW-110111-JH-25	GW-032607-JO-017	GW-060607-JO-15	GW-120507-SP-005
Sample Date:	10/29/2008	8/6/2010	6/3/2011	11/1/2011	3/22/2007	6/7/2007	12/5/2007	3/6/2008	8/6/2010	6/6/2011	11/1/2011	3/26/2007	6/6/2007	12/5/2007
Parameters	Units													
Volatile Organic Compounds														
1,1,1-Trichloroethane	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
1,1,2-Trichloroethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
1,1-Dichloroethane	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
1,2,4-Trichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	2.0 U	-	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
1,2-Dichloroethane	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
1,4-Dioxane	µg/L	-	-	-	-	200 U	200 U	200 U	200 U	-	-	-	200 U	200 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	-	-	10 U	10 U	3.3 J	10 U	10 U	-	-	10 U	10 U	10 U
2-Hexanone	µg/L	-	-	-	10 U	-	-	-	-	-	-	10 U	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	-	10 U	-	-	-	-	-	-	10 U	-	-
Acetone	µg/L	-	-	-	10 U	-	-	-	-	-	-	10 U	-	-
Benzene	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Bromoform	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Bromomethane (Methyl bromide)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Carbon disulfide	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Chlorobenzene	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Chloroform (Trichloromethane)	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
cis-1,2-Dichloroethene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
cis-1,3-Dichloropropene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Cyclohexane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Dibromochloromethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Ethylbenzene	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Methyl acetate	µg/L	-	-	-	10 U	-	-	-	-	-	-	10 U	-	-
Methyl cyclohexane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Methyl tert butyl ether (MTBE)	µg/L	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Styrene	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
Toluene	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
trans-1,3-Dichloropropene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Trichloroethene	µg/L	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Trifluorotrchloroethane (CFC-113)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Vinyl chloride	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	1.0 U	-	-
Xylenes (total)	µg/L	-	-	-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	-	-	2.0 U	2.0 U	2.0 U
Volatile Organic Compounds - BTEX														
Benzene	µg/L	1.0 U	1.0 U	1.0 U	-	-	-	-	-	1.0 U	1.0 U	-	-	-
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	-	-	-	-	-	1.0 U	1.0 U	-	-	-
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	1.0 U	1.0 U	1.0 U	-	-	-	-	-	1.0 U	1.0 U	-	-	-
Xylenes (total)	ug/L	2.0 U	2.0 U	2.0 U	-	-	-	-	-	2.0 U	2.0 U	-	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-8	MW-8	MW-8
Sample ID:	GW-102908-KW-003	GW-080610-TW-13	GW-060311-JH-36	GW-110111-JH-23	GW-032207-JO-018	GW-060707-JO-19	GW-120507-SP-003	GW-030608-KW-008	GW-080610-TW-16	GW-060611-JH-44	GW-110111-JH-25	GW-032607-JO-017	GW-060607-JO-15	GW-120507-SP-005
Sample Date:	10/29/2008	8/6/2010	6/3/2011	11/1/2011	3/22/2007	6/7/2007	12/5/2007	3/6/2008	8/6/2010	6/6/2011	11/1/2011	3/26/2007	6/6/2007	12/5/2007
Parameters	Units													
Semi-volatile Organic Compounds														
1,2-Dichlorobenzene	µg/L	-	-	-	10 U	25 U	10 U	10 U	-	-	-	10 U	10 U	10 U
1,3-Dichlorobenzene	µg/L	-	-	-	10 U	25 U	10 U	10 U	-	-	-	10 U	10 U	10 U
1,4-Dichlorobenzene	µg/L	-	-	-	10 U	25 U	10 U	10 U	-	-	-	10 U	10 U	10 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
2,4,5-Trichlorophenol	µg/L	-	-	4.8 U	-	-	-	-	-	-	4.9 U	-	-	-
2,4,6-Trichlorophenol	µg/L	-	-	4.8 U	-	-	-	-	-	-	4.9 U	-	-	-
2,4-Dichlorophenol	µg/L	-	-	1.9 U	-	-	-	-	-	-	2.0 U	-	-	-
2,4-Dimethylphenol	µg/L	-	-	1.9 U	10 U	25 U	10 U	10 U	-	-	2.0 U	10 U	10 U	10 U
2,4-Dinitrophenol	µg/L	-	-	4.8 U	50 U	120 U	50 U	50 U	-	-	4.9 U	50 U	50 U	50 U
2,4-Dinitrotoluene	µg/L	-	-	4.8 U	-	-	-	-	-	-	4.9 U	-	-	-
2,6-Dinitrotoluene	µg/L	-	-	4.8 U	-	-	-	-	-	-	4.9 U	-	-	-
2-Chloronaphthalene	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
2-Chlorophenol	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
2-Methylnaphthalene	µg/L	-	-	0.19 U	-	-	-	-	-	-	0.20 U	-	-	-
2-Methylphenol	µg/L	-	-	0.95 U	10 U	25 U	10 U	10 U	-	-	0.98 U	10 U	10 U	10 U
2-Nitroaniline	µg/L	-	-	1.9 U	-	-	-	-	-	-	2.0 U	-	-	-
2-Nitrophenol	µg/L	-	-	1.9 U	-	-	-	-	-	-	2.0 U	-	-	-
3&4-Methylphenol	µg/L	-	-	1.9 U	-	-	-	-	-	-	2.0 U	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	-	4.8 U	-	-	-	-	-	-	4.9 U	-	-	-
3-Methylphenol	µg/L	-	-	-	10 U	25 U	10 U	10 U	-	-	-	10 U	10 U	10 U
3-Nitroaniline	µg/L	-	-	1.9 U	-	-	-	-	-	-	2.0 U	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	-	4.8 U	-	-	-	-	-	-	4.9 U	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	-	1.9 U	-	-	-	-	-	-	2.0 U	-	-	-
4-Chloro-3-methylphenol	µg/L	-	-	1.9 U	-	-	-	-	-	-	2.0 U	-	-	-
4-Chloroaniline	µg/L	-	-	1.9 U	-	-	-	-	-	-	2.0 U	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	-	1.9 U	-	-	-	-	-	-	2.0 U	-	-	-
4-Methylphenol	µg/L	-	-	-	10 U	25 U	10 U	10 U	-	-	-	10 U	10 U	10 U
4-Nitroaniline	µg/L	-	-	1.9 U	-	-	-	-	-	-	2.0 U	-	-	-
4-Nitrophenol	µg/L	-	-	4.8 U	50 U	120 U	50 U	50 U	-	-	4.9 U	50 U	50 U	50 U
Acenaphthene	µg/L	-	-	0.19 U	0.73 J	25 U	10 U	0.27 J	-	-	0.20 U	10 U	10 U	10 U
Acenaphthylene	µg/L	-	-	0.19 U	-	-	-	-	-	-	0.20 U	-	-	-
Acetophenone	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Anthracene	µg/L	-	-	0.19 U	0.35 J	25 U	10 U	10 U	-	-	0.20 U	10 U	10 U	10 U
Atrazine	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Benzaldehyde	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Benzo(a)anthracene	µg/L	-	-	0.19 U	10 U	25 U	10 U	10 U	-	-	0.20 U	10 U	10 U	10 U
Benzo(a)pyrene	µg/L	-	-	0.19 U	10 U	25 U	10 U	10 U	-	-	0.20 U	10 U	10 U	10 U
Benzo(b)fluoranthene	µg/L	-	-	0.19 U	10 U	25 U	10 U	10 U	-	-	0.20 U	10 U	10 U	10 U
Benzo(b)pyridine (Quinoline)	µg/L	-	-	-	10 U	25 U	10 U	10 U	-	-	-	10 U	10 U	10 U
Benzo(g,h,i)perylene	µg/L	-	-	0.19 U	-	-	-	-	-	-	0.20 U	-	-	-
Benzo(k)fluoranthene	µg/L	-	-	0.19 U	10 U	25 U	10 U	10 U	-	-	0.20 U	10 U	10 U	10 U
Biphenyl (1,1-Biphenyl)	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	-	1.9 U	10 U	4.8 J	10 U	10 U	-	-	2.0 U	10 U	10 U	10 U
Butyl benzylphthalate (BBP)	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Caprolactam	µg/L	-	-	4.8 U	-	-	-	-	-	-	4.9 U	-	-	-
Carbazole	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Chrysene	µg/L	-	-	0.19 U	10 U	25 U	10 U	0.29 J	-	-	0.20 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	µg/L	-	-	0.19 U	10 U	25 U	10 U	10 U	-	-	0.20 U	10 U	10 U	10 U
Dibenzofuran	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Diethyl phthalate	µg/L	-	-	0.95 U	10 U	25 U	10 U	10 U	-	-	0.98 U	10 U	10 U	10 U
Dimethyl phthalate	µg/L	-	-	0.95 U	10 U	25 U	10 U	10 U	-	-	0.98 U	10 U	10 U	10 U
Di-n-butylphthalate (DBP)	µg/L	-	-	0.95 U	10 U	25 U	10 U	10 U	-	-	0.98 U	10 U	10 U	10 U
Di-n-octyl phthalate (DnOP)	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Fluoranthene	µg/L	-	-	0.19 U	10 U	25 U	10 U	0.21 J	-	-	0.20 U	10 U	10 U	10 U
Fluorene	µg/L	-	-	0.19 U	2.4 J	25 U	0.66 J	0.84 J	-	-	0.69	10 U	10 U	10 U
Hexachlorobenzene	µg/L	-	-	0.19 U	-	-	-	-	-	-	0.20 U	-	-	-
Hexachlorobutadiene	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Hexachlorocyclopentadiene	µg/L	-	-	9.5 U	-	-	-	-	-	-	9.8 U	-	-	-
Hexachloroethane	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	0.19 U	10 U	25 U	10 U	10 U	-	-	0.20 U	10 U	10 U	10 U
Isophorone	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Naphthalene	µg/L	-	-	0.19 U	0.72 J	25 U	10 U	10 U	-	-	0.20 U	10 U	10 U	10 U
Nitrobenzene	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
N-Nitrosodiphenylamine	µg/L	-	-	0.95 U	-	-	-	-	-	-	0.98 U	-	-	-
Pentachlorophenol	µg/L	-	-	4.8 U	-	-	-	-	-	-	4.9 U	-	-	-
Phenanthrene	µg/L	-	-	0.19 U	6.1 J	3.9 J	1.8 J	1.8 J	-	-	0.85	10 U	10 U	10 U
Phenol	µg/L	-	-	0.95 U	10 U	25 U	10 U	10 U	-	-	0.98 U	10 U	10 U	10 U
Pyrene	µg/L	-	-	0.19 U	0.33 J	25 U	0.32 J	0.50 J	-	-	0.28	10 U	10 U	10 U
Pyridine	µg/L	-	-	-	20 U	50 U	20 U	20 U	-	-	-	20 U	20 U	20 U

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-8	MW-8	MW-8
Sample ID:	GW-102908-KW-003	GW-080610-TW-13	GW-060311-JH-36	GW-110111-JH-23	GW-032207-JO-018	GW-060707-JO-19	GW-120507-SP-003	GW-030608-KW-008	GW-080610-TW-16	GW-060611-JH-44	GW-110111-JH-25	GW-032607-JO-017	GW-060607-JO-15	GW-120507-SP-005
Sample Date:	10/29/2008	8/6/2010	6/3/2011	11/1/2011	3/22/2007	6/7/2007	12/5/2007	3/6/2008	8/6/2010	6/6/2011	11/1/2011	3/26/2007	6/6/2007	12/5/2007
Parameters	Units													
Metals														
Aluminum	µg/L	-	-	-	200 U	-	-	-	-	-	-	200 U	-	-
Antimony	µg/L	-	-	-	10 U	60.0 U	60.0 U	60.0 U	60.0 U	-	-	10 U	60.0 U	5.5 J
Arsenic	µg/L	-	10.0 U	-	10 U	16.5	20.3	30.4	22.7	41.7	-	39	10.0 U	10.0 U
Arsenic (dissolved)	µg/L	5.6 J	-	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/L	-	-	-	200 U	57.9 J	72.2 J	64.2 J	60.2 J	-	-	200 U	30.6 J	35.6 J
Beryllium	µg/L	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	5.0 U	5.0 U	0.38 J
Cadmium	µg/L	-	-	-	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	2.0 U	5.0 U	5.0 U
Calcium	µg/L	-	-	-	93000	-	-	-	-	-	-	180000	-	-
Chromium	µg/L	-	-	-	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	-	5.0 U	10.0 U	10.0 U
Cobalt	µg/L	-	-	-	7.0 U	50.0 U	50.0 U	50.0 U	50.0 U	-	-	7.0 U	1.6 J	50.0 U
Copper	µg/L	-	-	-	25 U	-	-	-	-	-	-	25 U	-	-
Iron	µg/L	-	-	-	5800	-	-	-	-	-	-	13000	-	-
Lead	µg/L	-	-	-	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	-	-	3.0 U	3.0 U	3.0 U
Magnesium	µg/L	-	-	-	13000	-	-	-	-	-	-	14000	-	-
Manganese	µg/L	-	-	-	580	-	-	-	-	-	-	1300	-	-
Mercury	µg/L	-	-	-	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	-	-	0.20 U	0.20 U	0.20 U
Nickel	µg/L	-	-	-	40 U	40.0 U	40.0 U	40.0 U	40.0 U	-	-	40 U	1.5 J	40.0 U
Potassium	µg/L	-	-	-	5000 U	-	-	-	-	-	-	5000 U	-	-
Selenium	µg/L	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	5.0 U	5.0 U	3.4 J
Silver	µg/L	-	-	-	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	-	5.0 U	10.0 U	10.0 U
Sodium	µg/L	-	-	-	5000 U	-	-	-	-	-	-	5000 U	-	-
Thallium	µg/L	-	-	-	10 U	-	-	-	-	-	-	10 U	-	-
Vanadium	µg/L	-	-	-	7.0 U	50.0 U	50.0 U	2.1 J	50.0 U	-	-	7.0 U	50.0 U	50.0 U
Zinc	µg/L	-	-	-	50 U	68.6	20.0 U	20.0 U	7.4 J	-	-	50 U	20.0 U	20.0 U
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	-	-	0.49 U	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	-	0.49 U	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	-	0.49 U	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	-	0.49 U	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	-	0.49 U	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	-	0.49 U	-	-	-	-	-	-	0.50 U	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	-	0.49 U	-	-	-	-	-	-	0.50 U	-	-
General Chemistry														
Cyanide (total)	µg/L	-	-	-	10 U	10 U	10 U	10 U	10 U	-	-	10 U	10 U	10 U

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-8	MW-8	MW-8	MW-8	MW-8	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9
Sample ID:	GW-030608-KW-009	GW-102908-KW-004	GW-080610-TW-12	GW-060111-JH-05	GW-110211-JH-29	GW-032207-JO-020	GW-032207-JO-021	GW-060607-JO-14	GW-120507-SP-006	GW-120507-SP-007	GW-030608-KW-011	GW-030608-KW-012	GW-103008-KW-005	GW-080510-TW-10
Sample Date:	3/6/2008	10/29/2008	8/6/2010	6/1/2011	11/2/2011	3/22/2007	3/22/2007 (Duplicate)	6/6/2007	12/5/2007	12/5/2007 (Duplicate)	3/6/2008	3/6/2008 (Duplicate)	10/30/2008	8/5/2010
Parameters	Units													
Volatile Organic Compounds														
1,1,1-Trichloroethane	µg/L	1.0 U	-	-	-	1.0 U	1.7 U	1.4 U	2.0 U	2.5 U	2.5 U	1.0 U	1.0 U	-
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
1,1-Dichloroethane	µg/L	1.0 U	-	-	-	1.0 U	1.7 U	1.4 U	2.0 U	2.5 U	2.5 U	1.0 U	1.0 U	-
1,1-Dichloroethene	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	-	-	2.0 U	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	-	-	-	1.0 U	1.7 U	1.4 U	2.0 U	2.5 U	2.5 U	1.0 U	1.0 U	-
1,2-Dichlorobenzene	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	1.0 U	-	-	-	1.0 U	1.7 U	1.4 U	2.0 U	2.5 U	2.5 U	1.0 U	1.0 U	-
1,2-Dichloropropane	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
1,4-Dioxane	µg/L	200 U	-	-	-	-	330 U	290 U	400 U	500 U	500 U	200 U	200 U	-
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	-	-	-	10 U	4.1 J	14 U	6.1 J	25 U	25 U	10 U	10 U	-
2-Hexanone	µg/L	-	-	-	-	10 U	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Acetone	µg/L	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Benzene	µg/L	1.0 U	-	-	-	1.0 U	4.8	4.8	11	17	17	1.1	1.0	-
Bromodichloromethane	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Bromoform	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Carbon disulfide	µg/L	1.0 U	-	-	-	1.0 U	1.7 U	1.4 U	2.0 U	2.5 U	2.5 U	1.0 U	1.0 U	-
Carbon tetrachloride	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	1.0 U	-	-	-	1.0 U	1.7 U	1.4 U	2.0 U	2.5 U	2.5 U	1.0 U	1.0 U	-
Chloroethane	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	µg/L	1.0 U	-	-	-	1.0 U	1.7 U	1.4 U	2.0 U	2.5 U	2.5 U	1.0 U	1.0 U	-
Chloromethane (Methyl chloride)	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Cyclohexane	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Ethylbenzene	µg/L	1.0 U	-	-	-	1.0 U	11	9.6	20	23	24	0.96 J	0.57 J	-
Isopropyl benzene	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Methyl acetate	µg/L	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Methyl cyclohexane	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	µg/L	5.0 U	-	-	-	5.0 U	8.4 U	7.2 U	10 U	12 U	12 U	5.0 U	5.0 U	-
Methylene chloride	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Styrene	µg/L	1.0 U	-	-	-	1.0 U	1.7 U	1.4 U	2.0 U	2.5 U	2.5 U	1.0 U	1.0 U	-
Tetrachloroethene	µg/L	1.0 U	-	-	-	1.0 U	1.7 U	1.4 U	2.0 U	2.5 U	2.5 U	1.0 U	1.0 U	-
Toluene	µg/L	1.0 U	-	-	-	1.0 U	1.5 J	1.4	2.4	3.4	3.5	0.24 J	0.20 J	-
trans-1,2-Dichloroethene	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Trichloroethene	µg/L	1.0 U	-	-	-	1.0 U	1.7 U	1.4 U	2.0 U	2.5 U	2.5 U	1.0 U	1.0 U	-
Trichlorofluoromethane (CFC-11)	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Trifluorotrchloroethane (CFC-113)	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	2.0 U	-	-	-	2.0 U	6.9	6.2	11	9.6	9.9	1.3 J	0.61 J	-
Volatile Organic Compounds - BTEX														
Benzene	µg/L	-	1.0 U	1.0 U	1.0 U	-	-	-	-	-	-	-	14	1.4
Ethylbenzene	ug/L	-	1.0 U	1.0 U	1.0 U	-	-	-	-	-	-	-	2.2	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	1.0 U	1.0 U	1.0 U	-	-	-	-	-	-	-	2.4	1.0 U
Xylenes (total)	ug/L	-	2.0 U	2.0 U	2.0 U	-	-	-	-	-	-	-	1.8 J	2.0 U

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-8	MW-8	MW-8	MW-8	MW-8	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9
Sample ID:	GW-030608-KW-009	GW-102908-KW-004	GW-080610-TW-12	GW-060111-JH-05	GW-110211-JH-29	GW-032207-JO-020	GW-032207-JO-021	GW-060607-JO-14	GW-120507-SP-006	GW-120507-SP-007	GW-030608-KW-011	GW-030608-KW-012	GW-103008-KW-005	GW-080510-TW-10
Sample Date:	3/6/2008	10/29/2008	8/6/2010	6/1/2011	11/2/2011	3/22/2007	3/22/2007 (Duplicate)	6/6/2007	12/5/2007	12/5/2007 (Duplicate)	3/6/2008	3/6/2008 (Duplicate)	10/30/2008	8/5/2010
Parameters	Units													
Semi-volatile Organic Compounds														
1,2-Dichlorobenzene	µg/L	10 U	-	-	-	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
1,3-Dichlorobenzene	µg/L	10 U	-	-	-	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
1,4-Dichlorobenzene	µg/L	10 U	-	-	-	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	µg/L	-	-	-	4.9 U	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	µg/L	-	-	-	4.9 U	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	µg/L	-	-	-	1.9 U	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	µg/L	10 U	-	-	1.9 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
2,4-Dinitrophenol	µg/L	50 U	-	-	4.9 U	50 U	50 U	100 U	50 U	100 U	50 U	50 U	-	-
2,4-Dinitrotoluene	µg/L	-	-	-	4.9 U	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	µg/L	-	-	-	4.9 U	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
2-Chlorophenol	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	0.19 U	-	-	-	-	-	-	-	-	-
2-Methylphenol	µg/L	10 U	-	-	0.97 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
2-Nitroaniline	µg/L	-	-	-	1.9 U	-	-	-	-	-	-	-	-	-
2-Nitrophenol	µg/L	-	-	-	1.9 U	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	µg/L	-	-	-	1.9 U	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	-	-	4.9 U	-	-	-	-	-	-	-	-	-
3-Methylphenol	µg/L	10 U	-	-	-	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
3-Nitroaniline	µg/L	-	-	-	1.9 U	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	-	-	4.9 U	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	-	-	1.9 U	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	µg/L	-	-	-	1.9 U	-	-	-	-	-	-	-	-	-
4-Chloroaniline	µg/L	-	-	-	1.9 U	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	-	-	1.9 U	-	-	-	-	-	-	-	-	-
4-Methylphenol	µg/L	10 U	-	-	-	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
4-Nitroaniline	µg/L	-	-	-	1.9 U	-	-	-	-	-	-	-	-	-
4-Nitrophenol	µg/L	50 U	-	-	4.9 U	50 U	50 U	100 U	50 U	100 U	50 U	50 U	-	-
Acenaphthene	µg/L	10 U	-	-	0.19 U	3.5 J	3.8 J	3.2 J	2.4 J	4.2 J	10 U	10 U	-	-
Acenaphthylene	µg/L	-	-	-	0.19 U	-	-	-	-	-	-	-	-	-
Acetophenone	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Anthracene	µg/L	0.32 J	-	-	0.19 U	0.38 J	0.32 J	20 U	10 U	20 U	10 U	10 U	-	-
Atrazine	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Benzaldehyde	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	µg/L	10 U	-	-	0.19 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Benzo(a)pyrene	µg/L	10 U	-	-	0.19 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Benzo(b)fluoranthene	µg/L	10 U	-	-	0.19 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Benzo(b)pyridine (Quinoline)	µg/L	10 U	-	-	-	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	0.19 U	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	10 U	-	-	0.19 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Biphenyl (1,1-Biphenyl)	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	10 U	-	-	1.9 U	10 U	10 U	20 U	10 U	20 U	10 U	2.7 J	-	-
Butyl benzylphthalate (BBP)	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Caprolactam	µg/L	-	-	-	4.9 U	-	-	-	-	-	-	-	-	-
Carbazole	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Chrysene	µg/L	10 U	-	-	0.19 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Dibenz(a,h)anthracene	µg/L	10 U	-	-	0.19 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Dibenzofuran	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Diethyl phthalate	µg/L	10 U	-	-	0.97 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Dimethyl phthalate	µg/L	10 U	-	-	0.97 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Di-n-butylphthalate (DBP)	µg/L	10 U	-	-	0.97 U	1.0 J	0.87 J	20 U	10 U	20 U	10 U	10 U	-	-
Di-n-octyl phthalate (DnOP)	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/L	10 U	-	-	0.19 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Fluorene	µg/L	10 U	-	-	0.19 U	3.3 J	3.7 J	3.7 J	2.0 J	3.9 J	10 U	10 U	-	-
Hexachlorobenzene	µg/L	-	-	-	0.19 U	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	µg/L	-	-	-	9.7 U	-	-	-	-	-	-	-	-	-
Hexachloroethane	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	10 U	-	-	0.19 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Isophorone	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	10 U	-	-	0.19 U	37	40	49	37	69	10 U	10 U	-	-
Nitrobenzene	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	µg/L	-	-	-	0.97 U	-	-	-	-	-	-	-	-	-
Pentachlorophenol	µg/L	-	-	-	4.9 U	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	10 U	-	-	0.19 U	7.6 J	7.8 J	4.8 J	4.1 J	7.4 J	10 U	10 U	-	-
Phenol	µg/L	10 U	-	-	0.97 U	10 U	10 U	20 U	10 U	20 U	10 U	10 U	-	-
Pyrene	µg/L	10 U	-	-	0.19 U	0.40 J	0.34 J	20 U	10 U	20 U	10 U	10 U	-	-
Pyridine	µg/L	20 U	-	-	-	20 U	20 U	40 U	20 U	40 U	20 U	20 U	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-8	MW-8	MW-8	MW-8	MW-8	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9
Sample ID:	GW-030608-KW-009	GW-102908-KW-004	GW-080610-TW-12	GW-060111-JH-05	GW-110211-JH-29	GW-032207-JO-020	GW-032207-JO-021	GW-060607-JO-14	GW-120507-SP-006	GW-120507-SP-007	GW-030608-KW-011	GW-030608-KW-012	GW-103008-KW-005	GW-080510-TW-10
Sample Date:	3/6/2008	10/29/2008	8/6/2010	6/1/2011	11/2/2011	3/22/2007	3/22/2007 (Duplicate)	6/6/2007	12/5/2007	12/5/2007 (Duplicate)	3/6/2008	3/6/2008 (Duplicate)	10/30/2008	8/5/2010
Parameters	Units													
Metals														
Aluminum	µg/L	-	-	-	-	200 U	-	-	-	-	-	-	-	-
Antimony	µg/L	60.0 U	-	-	-	10 U	60.0 U	60.0 U	6.8 J	60.0 U	60.0 U	60.0 U	60.0 U	-
Arsenic	µg/L	3.7 J	-	10.0 U	-	10 U	10.0 U	10.0 U	8.0 J	8.1 J	8.9 J	10.0 U	3.8 J	-
Arsenic (dissolved)	µg/L	-	3.4 J	-	-	-	-	-	-	-	-	-	-	8.9 J
Barium	µg/L	50.7 J	-	-	-	200 U	25.4 J	24.8 J	39.0 J	55.1 J	56.6 J	13.3 J	13.6 J	-
Beryllium	µg/L	5.0 U	-	-	-	5.0 U	5.0 U	5.0 U	0.38 J	5.0 U	5.0 U	5.0 U	5.0 U	-
Cadmium	µg/L	5.0 U	-	-	-	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Calcium	µg/L	-	-	-	-	120000	-	-	-	-	-	-	-	-
Chromium	µg/L	10.0 U	-	-	-	5.0 U	10.0 U	2.0 J	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-
Cobalt	µg/L	50.0 U	-	-	-	7.0 U	50.0 U	1.7 J	1.8 J	50.0 U	50.0 U	50.0 U	50.0 U	-
Copper	µg/L	-	-	-	-	25 U	-	-	-	-	-	-	-	-
Iron	µg/L	-	-	-	-	9900	-	-	-	-	-	-	-	-
Lead	µg/L	3.0 U	-	-	-	3.0 U	3.0 U	3.0 U	2.6 J	4.1	4.4	3.0 U	3.0 U	-
Magnesium	µg/L	-	-	-	-	20000	-	-	-	-	-	-	-	-
Manganese	µg/L	-	-	-	-	350	-	-	-	-	-	-	-	-
Mercury	µg/L	0.20 U	-	-	-	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	-
Nickel	µg/L	40.0 U	-	-	-	40 U	40.0 U	40.0 U	40.0 U	40.0 U	40.0 U	40.0 U	40.0 U	-
Potassium	µg/L	-	-	-	-	5000 U	-	-	-	-	-	-	-	-
Selenium	µg/L	5.0 U	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Silver	µg/L	10.0 U	-	-	-	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-
Sodium	µg/L	-	-	-	-	5000 U	-	-	-	-	-	-	-	-
Thallium	µg/L	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Vanadium	µg/L	50.0 U	-	-	-	7.0 U	6.0 J	7.0 J	3.3 J	4.1 J	4.2 J	50.0 U	50.0 U	-
Zinc	µg/L	20.0 U	-	-	-	50 U	6.9 J	20.0 U	20.0 U	5.3 J	5.8 J	7.9 J	20.0 U	-
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	-	-	-	0.49 U	-	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	-	-	0.49 U	-	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	-	-	0.49 U	-	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	-	-	0.49 U	-	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	-	-	0.49 U	-	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	-	-	0.49 U	-	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	-	-	0.49 U	-	-	-	-	-	-	-	-
General Chemistry														
Cyanide (total)	µg/L	10 U	-	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	-

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-9	MW-9	MW-9	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10A	MW-10B	MW-10B	
Sample ID:	GW-060311-JH-34	GW-060311-JH-35	GW-110311-JH-47	GW-032307-JO-022	GW-060507-JO-06	GW-120507-SP-008	GW-030608-KW-010	GW-080510-TW-06	GW-060111-JH-14	GW-110311-JH-43	GW-110311-JH-45	GW-091611-JH-013	GW-091611-JH-014	GW-091611-JH-015	
Sample Date:	6/3/2011	6/3/2011 (Duplicate)	11/3/2011	3/23/2007	6/5/2007	12/5/2007	3/6/2008	8/5/2010	6/1/2011	11/3/2011	11/3/2011 (Duplicate)	9/16/2011	9/16/2011	9/16/2011 (Duplicate)	
Parameters	Units														
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	-	-	1.0 U	25 U	12 U	20 U	25 U	-	-	29 U	29 U	-	-	
1,1,2,2-Tetrachloroethane	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
1,1,2-Trichloroethane	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
1,1-Dichloroethane	µg/L	-	-	1.0 U	25 U	12 U	20 U	25 U	-	-	29 U	29 U	-	-	
1,1-Dichloroethene	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
1,2,4-Trichlorobenzene	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	2.0 U	-	-	-	-	-	-	57 U	57 U	-	-	
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	-	1.0 U	25 U	12 U	20 U	25 U	-	-	29 U	29 U	-	-	
1,2-Dichlorobenzene	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
1,2-Dichloroethane	µg/L	-	-	1.0 U	25 U	12 U	20 U	25 U	-	-	29 U	29 U	-	-	
1,2-Dichloropropane	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
1,3-Dichlorobenzene	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
1,4-Dichlorobenzene	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
1,4-Dioxane	µg/L	-	-	-	5000 U	2500 U	4000 U	5000 U	-	-	-	-	-	-	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	-	10 U	250 U	120 U	200 U	250 U	-	-	290 U	290 U	-	-	
2-Hexanone	µg/L	-	-	10 U	-	-	-	-	-	-	290 U	290 U	-	-	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	10 U	-	-	-	-	-	-	290 U	290 U	-	-	
Acetone	µg/L	-	-	10 U	-	-	-	-	-	-	290 U	290 U	-	-	
Benzene	µg/L	-	-	6.7	630	840	670	730	-	-	670	570	-	-	
Bromodichloromethane	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Bromoform	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Bromomethane (Methyl bromide)	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Carbon disulfide	µg/L	-	-	1.0 U	25 U	12 U	20 U	25 U	-	-	29 U	29 U	-	-	
Carbon tetrachloride	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Chlorobenzene	µg/L	-	-	1.0 U	25 U	12 U	20 U	25 U	-	-	29 U	29 U	-	-	
Chloroethane	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Chloroform (Trichloromethane)	µg/L	-	-	1.0 U	25 U	12 U	20 U	25 U	-	-	29 U	29 U	-	-	
Chloromethane (Methyl chloride)	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
cis-1,2-Dichloroethene	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
cis-1,3-Dichloropropene	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Cyclohexane	µg/L	-	-	14	-	-	-	-	-	-	390	350	-	-	
Dibromochloromethane	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Ethylbenzene	µg/L	-	-	1.0 U	410	600	470	520	-	-	330	310	-	-	
Isopropyl benzene	µg/L	-	-	2.5	-	-	-	-	-	-	29	29 U	-	-	
Methyl acetate	µg/L	-	-	10 U	-	-	-	-	-	-	290 U	290 U	-	-	
Methyl cyclohexane	µg/L	-	-	2.8	-	-	-	-	-	-	230	190	-	-	
Methyl tert butyl ether (MTBE)	µg/L	-	-	5.0 U	120 U	62 U	100 U	120 U	-	-	140 U	140 U	-	-	
Methylene chloride	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Styrene	µg/L	-	-	1.0 U	25 U	12 U	20 U	25 U	-	-	29 U	29 U	-	-	
Tetrachloroethene	µg/L	-	-	1.0 U	25 U	12 U	20 U	25 U	-	-	29 U	29 U	-	-	
Toluene	µg/L	-	-	1.1	120	180	120	130	-	-	120	100	-	-	
trans-1,2-Dichloroethene	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
trans-1,3-Dichloropropene	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Trichloroethene	µg/L	-	-	1.0 U	25 U	12 U	20 U	25 U	-	-	29 U	29 U	-	-	
Trichlorofluoromethane (CFC-11)	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Trifluorotrchloroethane (CFC-113)	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Vinyl chloride	µg/L	-	-	1.0 U	-	-	-	-	-	-	29 U	29 U	-	-	
Xylenes (total)	µg/L	-	-	2.0 U	870	1200	840	950	-	-	500	510	-	-	
Volatile Organic Compounds - BTEX															
Benzene	µg/L	8.4	9.7	-	-	-	-	-	800	770	-	-	51	680	690
Ethylbenzene	ug/L	1.1	1.1	-	-	-	-	-	420	480	-	-	320	770	770
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	71 U	140 U	140 U
Toluene	ug/L	1.9	2.1	-	-	-	-	-	140	160	-	-	42	220	220
Xylenes (total)	ug/L	2.0 U	2.0 U	-	-	-	-	-	710	880	-	-	610	1500	1500

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-9	MW-9	MW-9	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10A	MW-10B	MW-10B
Sample ID:	GW-060311-JH-34	GW-060311-JH-35	GW-110311-JH-47	GW-032307-JO-022	GW-060507-JO-06	GW-120507-SP-008	GW-030608-KW-010	GW-080510-TW-06	GW-060111-JH-14	GW-110311-JH-43	GW-110311-JH-45	GW-091611-JH-013	GW-091611-JH-014	GW-091611-JH-015
Sample Date:	6/3/2011	6/3/2011 (Duplicate)	11/3/2011	3/23/2007	6/5/2007	12/5/2007	3/6/2008	8/5/2010	6/1/2011	11/3/2011	11/3/2011 (Duplicate)	9/16/2011	9/16/2011	9/16/2011 (Duplicate)
Parameters	Units													
Semi-volatile Organic Compounds														
1,2-Dichlorobenzene	µg/L	-	-	100 U	100 U	40 U	40 U	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	100 U	100 U	40 U	40 U	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	100 U	100 U	40 U	40 U	-	-	-	-	-	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
2,4,5-Trichlorophenol	µg/L	-	5.1 U	-	-	-	-	-	-	34 U	26 U	-	-	-
2,4,6-Trichlorophenol	µg/L	-	5.1 U	-	-	-	-	-	-	34 U	26 U	-	-	-
2,4-Dichlorophenol	µg/L	-	2.0 U	-	-	-	-	-	-	13 U	10 U	-	-	-
2,4-Dimethylphenol	µg/L	-	2.0 U	13 J	100 U	7.3 J	6.5 J	-	-	13 U	10	-	-	-
2,4-Dinitrophenol	µg/L	-	5.1 U	500 U	500 U	200 U	200 U	-	-	34 U	26 U	-	-	-
2,4-Dinitrotoluene	µg/L	-	5.1 U	-	-	-	-	-	-	34 U	26 U	-	-	-
2,6-Dinitrotoluene	µg/L	-	5.1 U	-	-	-	-	-	-	34 U	26 U	-	-	-
2-Chloronaphthalene	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
2-Chlorophenol	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
2-Methylnaphthalene	µg/L	-	0.20 U	-	-	-	-	-	-	190	200	-	-	-
2-Methylphenol	µg/L	-	1.0 U	100 U	100 U	40 U	40 U	-	-	6.7 U	5.1 U	-	-	-
2-Nitroaniline	µg/L	-	2.0 U	-	-	-	-	-	-	13 U	10 U	-	-	-
2-Nitrophenol	µg/L	-	2.0 U	-	-	-	-	-	-	13 U	10 U	-	-	-
3&4-Methylphenol	µg/L	-	2.0 U	-	-	-	-	-	-	13 U	10 U	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	5.1 U	-	-	-	-	-	-	34 U	26 U	-	-	-
3-Methylphenol	µg/L	-	-	100 U	100 U	40 U	40 U	-	-	-	-	-	-	-
3-Nitroaniline	µg/L	-	2.0 U	-	-	-	-	-	-	13 U	10 U	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	5.1 U	-	-	-	-	-	-	34 U	26 U	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	2.0 U	-	-	-	-	-	-	13 U	10 U	-	-	-
4-Chloro-3-methylphenol	µg/L	-	2.0 U	-	-	-	-	-	-	13 U	10 U	-	-	-
4-Chloroaniline	µg/L	-	2.0 U	-	-	-	-	-	-	13 U	10 U	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	2.0 U	-	-	-	-	-	-	13 U	10 U	-	-	-
4-Methylphenol	µg/L	-	-	100 U	100 U	40 U	40 U	-	-	-	-	-	-	-
4-Nitroaniline	µg/L	-	2.0 U	-	-	-	-	-	-	13 U	10 U	-	-	-
4-Nitrophenol	µg/L	-	5.1 U	500 U	500 U	200 U	200 U	-	-	34 U	26 U	-	-	-
Acenaphthene	µg/L	-	0.80	100 U	100 U	2.0 J	2.0 J	-	-	2.5	2.2	-	-	-
Acenaphthylene	µg/L	-	0.20 U	-	-	-	-	-	-	1.3 U	1.0 U	-	-	-
Acetophenone	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
Anthracene	µg/L	-	0.20 U	100 U	100 U	0.83 J	40 U	-	-	1.3 U	1.0 U	-	-	-
Atrazine	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
Benzaldehyde	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
Benzo(a)anthracene	µg/L	-	0.20 U	100 U	100 U	40 U	40 U	-	-	1.3 U	1.0 U	-	-	-
Benzo(a)pyrene	µg/L	-	0.20 U	100 U	100 U	40 U	40 U	-	-	1.3 U	1.0 U	-	-	-
Benzo(b)fluoranthene	µg/L	-	0.20 U	100 U	100 U	40 U	40 U	-	-	1.3 U	1.0 U	-	-	-
Benzo(b)pyridine (Quinoline)	µg/L	-	-	100 U	100 U	40 U	40 U	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	0.20 U	-	-	-	-	-	-	1.3 U	1.0 U	-	-	-
Benzo(k)fluoranthene	µg/L	-	0.20 U	100 U	100 U	40 U	40 U	-	-	1.3 U	1.0 U	-	-	-
Biphenyl (1,1-Biphenyl)	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	2.0 U	100 U	100 U	40 U	40 U	-	-	13 U	10 U	-	-	-
Butyl benzylphthalate (BBP)	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
Caprolactam	µg/L	-	5.1 U	-	-	-	-	-	-	34 U	26 U	-	-	-
Carbazole	µg/L	-	1.0 U	-	-	-	-	-	-	44	47	-	-	-
Chrysene	µg/L	-	0.20 U	100 U	100 U	40 U	40 U	-	-	1.3 U	1.0 U	-	-	-
Dibenz(a,h)anthracene	µg/L	-	0.20 U	100 U	100 U	40 U	40 U	-	-	1.3 U	1.0 U	-	-	-
Dibenzofuran	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
Diethyl phthalate	µg/L	-	1.0 U	100 U	100 U	40 U	40 U	-	-	6.7 U	5.1 U	-	-	-
Dimethyl phthalate	µg/L	-	1.0 U	100 U	100 U	40 U	40 U	-	-	6.7 U	5.1 U	-	-	-
Di-n-butylphthalate (DBP)	µg/L	-	1.0 U	100 U	100 U	40 U	40 U	-	-	6.7 U	5.1 U	-	-	-
Di-n-octyl phthalate (DnOP)	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
Fluoranthene	µg/L	-	0.20 U	100 U	100 U	40 U	40 U	-	-	1.3 U	1.0 U	-	-	-
Fluorene	µg/L	-	0.77	4.4 J	100 U	2.7 J	3.0 J	-	-	3.9	3.5	-	-	-
Hexachlorobenzene	µg/L	-	0.20 U	-	-	-	-	-	-	1.3 U	1.0 U	-	-	-
Hexachlorobutadiene	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
Hexachlorocyclopentadiene	µg/L	-	10 U	-	-	-	-	-	-	67 U	51 U	-	-	-
Hexachloroethane	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	0.20 U	100 U	100 U	40 U	40 U	-	-	1.3 U	1.0 U	-	-	-
Isophorone	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
Naphthalene	µg/L	-	0.20 U	180	130	130	140	-	-	130	130	-	-	-
Nitrobenzene	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
N-Nitrosodiphenylamine	µg/L	-	1.0 U	-	-	-	-	-	-	6.7 U	5.1 U	-	-	-
Pentachlorophenol	µg/L	-	5.1 U	-	-	-	-	-	-	34 U	26 U	-	-	-
Phenanthrene	µg/L	-	0.20 U	18 J	8.9 J	8.8 J	11 J	-	-	9.8	10	-	-	-
Phenol	µg/L	-	1.0 U	100 U	11 J	7.0 J	40 U	-	-	11	11	-	-	-
Pyrene	µg/L	-	0.20 U	100 U	100 U	0.92 J	0.81 J	-	-	1.3 U	1.0 U	-	-	-
Pyridine	µg/L	-	-	200 U	200 U	80 U	80 U	-	-	-	-	-	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-9	MW-9	MW-9	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10A	MW-10B	MW-10B
Sample ID:	GW-060311-JH-34	GW-060311-JH-35	GW-110311-JH-47	GW-032307-JO-022	GW-060507-JO-06	GW-120507-SP-008	GW-030608-KW-010	GW-080510-TW-06	GW-060111-JH-14	GW-110311-JH-43	GW-110311-JH-45	GW-091611-JH-013	GW-091611-JH-014	GW-091611-JH-015
Sample Date:	6/3/2011	6/3/2011 (Duplicate)	11/3/2011	3/23/2007	6/5/2007	12/5/2007	3/6/2008	8/5/2010	6/1/2011	11/3/2011	11/3/2011 (Duplicate)	9/16/2011	9/16/2011	9/16/2011 (Duplicate)
Parameters	Units													
Metals														
Aluminum	µg/L	-	-	200 U	-	-	-	-	-	-	200 U	200 U	-	-
Antimony	µg/L	-	-	10 U	60.0 U	4.2 J	1.8 J	60.0 U	-	-	10 U	10 U	-	-
Arsenic	µg/L	-	-	10 U	10.0 U	6.6 J	5.4 J	10.0 U	10.0 U	-	10 U	10 U	-	-
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/L	-	-	200 U	76.1 J	105 J	110 J	13.1 J	-	-	200 U	200 U	-	-
Beryllium	µg/L	-	-	5.0 U	5.0 U	0.30 J	5.0 U	5.0 U	-	-	5.0 U	5.0 U	-	-
Cadmium	µg/L	-	-	2.0 U	5.0 U	5.0 U	5.0 U	2.0 J	-	-	2.0 U	2.0 U	-	-
Calcium	µg/L	-	-	130000	-	-	-	-	-	-	170000	170000	-	-
Chromium	µg/L	-	-	5.0 U	2.9 J	10.0 U	10.0 U	10.0 U	-	-	5.0 U	5.0 U	-	-
Cobalt	µg/L	-	-	7.0 U	50.0 U	1.4 J	50.0 U	2.0 J	-	-	7.0 U	7.0 U	-	-
Copper	µg/L	-	-	25 U	-	-	-	-	-	-	25 U	25 U	-	-
Iron	µg/L	-	-	6700	-	-	-	-	-	-	23000	24000	-	-
Lead	µg/L	-	-	3.0 U	3.0 U	2.0 J	2.7 J	276	-	-	3.0 U	3.0 U	-	-
Magnesium	µg/L	-	-	5000 U	-	-	-	-	-	-	19000	19000	-	-
Manganese	µg/L	-	-	750	-	-	-	-	-	-	1200	1300	-	-
Mercury	µg/L	-	-	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	-	-	0.20 U	0.20 U	-	-
Nickel	µg/L	-	-	40 U	40.0 U	40.0 U	40.0 U	12.7 J	-	-	40 U	40 U	-	-
Potassium	µg/L	-	-	5000 U	-	-	-	-	-	-	5100	5700	-	-
Selenium	µg/L	-	-	5.0 U	5.0 U	4.2 J	5.0 U	5.0 U	-	-	5.0 U	5.0 U	-	-
Silver	µg/L	-	-	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	-	5.0 U	5.0 U	-	-
Sodium	µg/L	-	-	5000 U	-	-	-	-	-	-	5000 U	5000 U	-	-
Thallium	µg/L	-	-	10 U	-	-	-	-	-	-	10 U	10 U	-	-
Vanadium	µg/L	-	-	7.0 U	50.0 U	2.3 J	2.7 J	50.0 U	-	-	7.0 U	7.0 U	-	-
Zinc	µg/L	-	-	50 U	11.8 J	20.0 U	20.0 U	1030	-	-	50 U	50 U	-	-
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	-	0.52 U	-	-	-	-	-	-	0.50 U	0.50 U	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	0.52 U	-	-	-	-	-	-	0.50 U	0.50 U	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	0.52 U	-	-	-	-	-	-	0.50 U	0.50 U	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	0.52 U	-	-	-	-	-	-	0.50 U	0.50 U	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	0.52 U	-	-	-	-	-	-	0.50 U	0.50 U	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	0.52 U	-	-	-	-	-	-	0.50 U	0.50 U	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	0.52 U	-	-	-	-	-	-	0.50 U	0.50 U	-	-
General Chemistry														
Cyanide (total)	µg/L	-	-	10 U	10 U	10 U	10 U	10 U	-	-	10 U	10 U	-	-

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-10C	MW-10D	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-13	MW-13	MW-13	
Sample ID:	GW-091611-JH-016	GW-091611-JH-017	GW-032607-JO-023	GW-060607-JO-10	GW-060607-JO-11	GW-120707-SP-020	GW-030508-KW-006	GW-080410-LP-04	GW-060211-JH-22	GW-110211-JH-34	GW-110211-JH-36	GW-032607-JO-024	GW-060607-JO-09	GW-120707-SP-021	
Sample Date:	9/16/2011	9/16/2011	3/26/2007	6/6/2007	6/6/2007 (Duplicate)	12/7/2007	3/5/2008	8/4/2010	6/2/2011	11/2/2011	11/2/2011 (Duplicate)	3/26/2007	6/6/2007	12/7/2007	
Parameters	Units														
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	-	-	50 U	25 U	12 U	71 U	8.0 U	-	-	25 U	29 U	14 U	6.7 U	15 U
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
1,1,2-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
1,1-Dichloroethane	µg/L	-	-	50 U	25 U	12 U	71 U	8.0 U	-	-	25 U	29 U	14 U	6.7 U	15 U
1,1-Dichloroethene	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
1,2,4-Trichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	-	-	-	-	-	-	-	50 U	57 U	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	-	50 U	25 U	12 U	71 U	8.0 U	-	-	25 U	29 U	14 U	6.7 U	15 U
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
1,2-Dichloroethane	µg/L	-	-	50 U	25 U	12 U	71 U	8.0 U	-	-	25 U	29 U	14 U	6.7 U	15 U
1,2-Dichloropropane	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
1,4-Dioxane	µg/L	-	-	10000 U	5000 U	2500 U	14000 U	1600 U	-	-	-	-	2900 U	1300 U	3100 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	-	500 U	250 U	120 U	710 U	80 U	-	-	250 U	290 U	14 J	3.6 J	150 U
2-Hexanone	µg/L	-	-	-	-	-	-	-	-	-	250 U	290 U	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	-	-	-	-	-	-	-	250 U	290 U	-	-	-
Acetone	µg/L	-	-	-	-	-	-	-	-	-	250 U	290 U	-	-	-
Benzene	µg/L	-	-	1800	1800 J	1200 J	2100	99	-	-	810	670	370	420	510
Bromodichloromethane	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Bromoform	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Bromomethane (Methyl bromide)	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Carbon disulfide	µg/L	-	-	50 U	25 U	12 U	71 U	8.0 U	-	-	25 U	29 U	14 U	6.7 U	15 U
Carbon tetrachloride	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Chlorobenzene	µg/L	-	-	50 U	25 U	12 U	71 U	8.0 U	-	-	25 U	29 U	14 U	6.7 U	15 U
Chloroethane	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Chloroform (Trichloromethane)	µg/L	-	-	50 U	25 U	12 U	71 U	8.0 U	-	-	25 U	29 U	14 U	6.7 U	15 U
Chloromethane (Methyl chloride)	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
cis-1,2-Dichloroethene	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
cis-1,3-Dichloropropene	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Cyclohexane	µg/L	-	-	-	-	-	-	-	-	-	310	260	-	-	-
Dibromochloromethane	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Ethylbenzene	µg/L	-	-	130	260 J	150 J	250	75	-	-	150	130	9.8 J	8.9	7.0 J
Isopropyl benzene	µg/L	-	-	-	-	-	-	-	-	-	48	50	-	-	-
Methyl acetate	µg/L	-	-	-	-	-	-	-	-	-	250 U	290 U	-	-	-
Methyl cyclohexane	µg/L	-	-	-	-	-	-	-	-	-	280	220	-	-	-
Methyl tert butyl ether (MTBE)	µg/L	-	-	250 U	120 U	62 U	360 U	40 U	-	-	130 U	140 U	71 U	33 U	77 U
Methylene chloride	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Styrene	µg/L	-	-	50 U	25 U	12 U	71 U	8.0 U	-	-	25 U	29 U	14 U	6.7 U	15 U
Tetrachloroethene	µg/L	-	-	50 U	25 U	12 U	71 U	8.0 U	-	-	25 U	29 U	14 U	6.7 U	15 U
Toluene	µg/L	-	-	37 J	38	30	40 J	9.9	-	-	30	29 U	15	16	19
trans-1,2-Dichloroethene	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
trans-1,3-Dichloropropene	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Trichloroethene	µg/L	-	-	50 U	25 U	12 U	71 U	8.0 U	-	-	25 U	29 U	14 U	6.7 U	15 U
Trichlorofluoromethane (CFC-11)	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Trifluorotrifluoroethane (CFC-113)	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Vinyl chloride	µg/L	-	-	-	-	-	-	-	-	-	25 U	29 U	-	-	-
Xylenes (total)	µg/L	-	-	86 J	200	110	200	100	-	-	100	90	29	35	39
Volatile Organic Compounds - BTEX															
Benzene	µg/L	890	130	-	-	-	-	-	91	68	-	-	-	-	-
Ethylbenzene	ug/L	960	330	-	-	-	-	-	28	21	-	-	-	-	-
Methyl tert butyl ether (MTBE)	ug/L	170 U	140 U	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	310	51	-	-	-	-	-	6.4	11 U	-	-	-	-	-
Xylenes (total)	ug/L	2100	1800 J	-	-	-	-	-	50	40	-	-	-	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-10C	MW-10D	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-13	MW-13	MW-13
Sample ID:	GW-091611-JH-016	GW-091611-JH-017	GW-032607-JO-023	GW-060607-JO-10	GW-060607-JO-11	GW-120707-SP-020	GW-030508-KW-006	GW-080410-LP-04	GW-060211-JH-22	GW-110211-JH-34	GW-110211-JH-36	GW-032607-JO-024	GW-060607-JO-09	GW-120707-SP-021
Sample Date:	9/16/2011	9/16/2011	3/26/2007	6/6/2007	6/6/2007	12/7/2007	3/5/2008	8/4/2010	6/2/2011	11/2/2011	11/2/2011	3/26/2007	6/6/2007	12/7/2007
Parameters	Units													
Semi-volatile Organic Compounds	(Duplicate)													
1,2-Dichlorobenzene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	-	-	25 U	67 U	25 U
1,3-Dichlorobenzene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	-	-	25 U	67 U	25 U
1,4-Dichlorobenzene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	-	-	25 U	67 U	25 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
2,4,5-Trichlorophenol	µg/L	-	-	-	-	-	-	-	-	96 U	96 U	-	-	-
2,4,6-Trichlorophenol	µg/L	-	-	-	-	-	-	-	-	96 U	96 U	-	-	-
2,4-Dichlorophenol	µg/L	-	-	-	-	-	-	-	-	38 U	38 U	-	-	-
2,4-Dimethylphenol	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	38 U	38 U	1.5 J	67 U	25 U
2,4-Dinitrophenol	µg/L	-	200 U	500 U	500 U	1000 U	100 U	-	-	96 U	96 U	120 U	330 U	120 U
2,4-Dinitrotoluene	µg/L	-	-	-	-	-	-	-	-	96 U	96 U	-	-	-
2,6-Dinitrotoluene	µg/L	-	-	-	-	-	-	-	-	96 U	96 U	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
2-Chlorophenol	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	19	22	-	-	-
2-Methylphenol	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	19 U	19 U	25 U	67 U	25 U
2-Nitroaniline	µg/L	-	-	-	-	-	-	-	-	38 U	38 U	-	-	-
2-Nitrophenol	µg/L	-	-	-	-	-	-	-	-	38 U	38 U	-	-	-
3&4-Methylphenol	µg/L	-	-	-	-	-	-	-	-	38 U	38 U	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	-	-	-	-	-	-	-	96 U	96 U	-	-	-
3-Methylphenol	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	-	-	1.3 J	67 U	25 U
3-Nitroaniline	µg/L	-	-	-	-	-	-	-	-	38 U	38 U	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	-	-	-	-	-	-	-	96 U	96 U	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	-	-	-	-	-	-	-	38 U	38 U	-	-	-
4-Chloro-3-methylphenol	µg/L	-	-	-	-	-	-	-	-	38 U	38 U	-	-	-
4-Chloroaniline	µg/L	-	-	-	-	-	-	-	-	38 U	38 U	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	-	-	-	-	-	-	-	38 U	38 U	-	-	-
4-Methylphenol	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	-	-	25 U	67 U	25 U
4-Nitroaniline	µg/L	-	-	-	-	-	-	-	-	38 U	38 U	-	-	-
4-Nitrophenol	µg/L	-	200 U	500 U	500 U	1000 U	100 U	-	-	96 U	96 U	120 U	330 U	120 U
Acenaphthene	µg/L	-	2.3 J	100 U	100 U	200 U	2.0 J	-	-	3.8 U	3.8 U	7.1 J	4.7 J	6.1 J
Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	3.8 U	3.8 U	-	-	-
Acetophenone	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Anthracene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	3.8 U	3.8 U	0.75 J	67 U	25 U
Atrazine	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Benzaldehyde	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Benzo(a)anthracene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	3.8 U	3.8 U	25 U	67 U	25 U
Benzo(a)pyrene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	3.8 U	3.8 U	25 U	67 U	25 U
Benzo(b)fluoranthene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	3.8 U	3.8 U	25 U	67 U	25 U
Benzo(b)pyridine (Quinoline)	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	-	-	25 U	67 U	25 U
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	3.8 U	3.8 U	-	-	-
Benzo(k)fluoranthene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	3.8 U	3.8 U	25 U	67 U	25 U
Biphenyl (1,1-Biphenyl)	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	38 U	38 U	25 U	67 U	25 U
Butyl benzylphthalate (BBP)	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Caprolactam	µg/L	-	-	-	-	-	-	-	-	96 U	96 U	-	-	-
Carbazole	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Chrysene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	3.8 U	3.8 U	0.66 J	67 U	25 U
Dibenz(a,h)anthracene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	3.8 U	3.8 U	25 U	67 U	25 U
Dibenzofuran	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Diethyl phthalate	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	19 U	19 U	25 U	67 U	25 U
Dimethyl phthalate	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	19 U	19 U	25 U	67 U	25 U
Di-n-butylphthalate (DBP)	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	19 U	19 U	25 U	67 U	25 U
Di-n-octyl phthalate (DnOP)	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Fluoranthene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	3.8 U	3.8 U	25 U	67 U	25 U
Fluorene	µg/L	-	2.4 J	100 U	100 U	200 U	2.5 J	-	-	3.8 U	3.8 U	6.7 J	6.2 J	5.6 J
Hexachlorobenzene	µg/L	-	-	-	-	-	-	-	-	3.8 U	3.8 U	-	-	-
Hexachlorobutadiene	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Hexachlorocyclopentadiene	µg/L	-	-	-	-	-	-	-	-	190 U	190 U	-	-	-
Hexachloroethane	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	3.8 U	3.8 U	25 U	67 U	25 U
Isophorone	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Naphthalene	µg/L	-	52	310	250	660	74	-	-	340	410	3.5 J	67 U	25 U
Nitrobenzene	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
N-Nitrosodiphenylamine	µg/L	-	-	-	-	-	-	-	-	19 U	19 U	-	-	-
Pentachlorophenol	µg/L	-	-	-	-	-	-	-	-	96 U	96 U	-	-	-
Phenanthrene	µg/L	-	5.1 J	5.0 J	4.8 J	12 J	6.0 J	-	-	6.0	3.8 U	10 J	6.5 J	5.8 J
Phenol	µg/L	-	26 J	100 U	13 J	200 U	20 U	-	-	19 U	19 U	4.9 J	67 U	25 U
Pyrene	µg/L	-	40 U	100 U	100 U	200 U	20 U	-	-	3.8 U	3.8 U	1.0 J	67 U	25 U
Pyridine	µg/L	-	80 U	200 U	200 U	400 U	40 U	-	-	-	-	50 U	130 U	50 U

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-10C	MW-10D	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-12	MW-13	MW-13	MW-13
Sample ID:	GW-091611-JH-016	GW-091611-JH-017	GW-032607-JO-023	GW-060607-JO-10	GW-060607-JO-11	GW-120707-SP-020	GW-030508-KW-006	GW-080410-LP-04	GW-060211-JH-22	GW-110211-JH-34	GW-110211-JH-36	GW-032607-JO-024	GW-060607-JO-09	GW-120707-SP-021
Sample Date:	9/16/2011	9/16/2011	3/26/2007	6/6/2007	6/6/2007 (Duplicate)	12/7/2007	3/5/2008	8/4/2010	6/2/2011	11/2/2011	11/2/2011 (Duplicate)	3/26/2007	6/6/2007	12/7/2007
Parameters	Units													
Metals														
Aluminum	µg/L	-	-	-	-	-	-	-	-	-	200 U	200 U	-	-
Antimony	µg/L	-	-	60.0 U	60.0 U	60.0 U	60.0 U	60.0 U	-	-	10 U	10 U	60.0 U	60.0 U
Arsenic	µg/L	-	-	20.0	31.7	29.6	22.5	41.9	52.5	-	43	46	10.0 U	10.0 U
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/L	-	-	246	240	222	221	256	-	-	250	250	106 J	172 J
Beryllium	µg/L	-	-	5.0 U	0.40 J	0.39 J	5.0 U	5.0 U	-	-	5.0 U	5.0 U	5.0 U	0.36 J
Cadmium	µg/L	-	-	5.0 U	5.0 U	5.0 U	5.0 U	0.85 J	-	-	2.0 U	2.0 U	5.0 U	5.0 U
Calcium	µg/L	-	-	-	-	-	-	-	-	-	190000	180000	-	-
Chromium	µg/L	-	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	-	5.0 U	5.0 U	10.0 U	10.0 U
Cobalt	µg/L	-	-	1.4 J	50.0 U	50.0 U	50.0 U	50.0 U	-	-	7.0 U	7.0 U	2.0 J	1.7 J
Copper	µg/L	-	-	-	-	-	-	-	-	-	25 U	25 U	-	-
Iron	µg/L	-	-	-	-	-	-	-	-	-	20000	20000	-	-
Lead	µg/L	-	-	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	-	-	3.0 U	3.0 U	3.0 U	3.0 U
Magnesium	µg/L	-	-	-	-	-	-	-	-	-	34000	34000	-	-
Manganese	µg/L	-	-	-	-	-	-	-	-	-	270	180	-	-
Mercury	µg/L	-	-	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	-	-	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	-	-	40.0 U	40.0 U	40.0 U	40.0 U	40.0 U	-	-	40 U	40 U	40.0 U	40.0 U
Potassium	µg/L	-	-	-	-	-	-	-	-	-	5000 U	5000 U	-	-
Selenium	µg/L	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	5.0 U	5.0 U	5.0 U	5.0 U
Silver	µg/L	-	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	-	5.0 U	5.0 U	10.0 U	10.0 U
Sodium	µg/L	-	-	-	-	-	-	-	-	-	17000	17000	-	-
Thallium	µg/L	-	-	-	-	-	-	-	-	-	10 U	10 U	-	-
Vanadium	µg/L	-	-	50.0 U	50.0 U	50.0 U	1.8 J	0.93 J	-	-	7.0 U	7.0 U	50.0 U	50.0 U
Zinc	µg/L	-	-	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	-	-	50 U	50 U	20.0 U	20.0 U
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	-	-	-	-	-	-	-	-	0.48 U	0.48 U	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	-	-	-	-	-	-	-	0.48 U	0.48 U	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	-	-	-	-	-	-	-	0.48 U	0.48 U	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	-	-	-	-	-	-	-	0.48 U	0.48 U	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	-	-	-	-	-	-	-	0.48 U	0.48 U	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	-	-	-	-	-	-	-	0.48 U	0.48 U	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	-	-	-	-	-	-	-	0.48 U	0.48 U	-	-
General Chemistry														
Cyanide (total)	µg/L	-	-	3.4 J	10 U	10 U	10 U	8.5 J	-	-	13	17	10 U	10 U

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	
Sample ID:	GW-030508-KW-007	GW-103108-KW-011	GW-103108-KW-012	GW-080510-TW-05	GW-060211-JH-20	GW-110211-JH-32	GW-032307-JO-026	GW-060507-JO-03	GW-120707-SP-017	GW-120707-SP-018	GW-030708-KW-019	GW-030708-KW-020	GW-103108-KW-013	GW-080510-TW-09	
Sample Date:	3/5/2008	10/31/2008	10/31/2008 (Duplicate)	8/5/2010	6/2/2011	11/2/2011	3/23/2007	6/5/2007	12/7/2007	12/7/2007 (Duplicate)	3/7/2008	3/7/2008 (Duplicate)	10/31/2008	8/5/2010	
Parameters	Units														
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	14 U	-	-	-	-	10 U	11 U	8.0 U	10 U	10 U	8.0 U	8.0 U	-	-
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
1,1-Dichloroethane	µg/L	14 U	-	-	-	-	10 U	11 U	8.0 U	10 U	10 U	8.0 U	8.0 U	-	-
1,1-Dichloroethene	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	-	-	-	20 U	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	14 U	-	-	-	-	10 U	11 U	8.0 U	10 U	10 U	8.0 U	8.0 U	-	-
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	14 U	-	-	-	-	10 U	11 U	8.0 U	10 U	10 U	8.0 U	8.0 U	-	-
1,2-Dichloropropane	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
1,4-Dioxane	µg/L	2900 U	-	-	-	-	-	2200 U	1600 U	2000 U	2000 U	1600 U	1600 U	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	140 U	-	-	-	-	100 U	110 U	7.8 J	100 U	100 U	80 U	80 U	-	-
2-Hexanone	µg/L	-	-	-	-	-	100 U	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	-	-	-	100 U	-	-	-	-	-	-	-	-
Acetone	µg/L	-	-	-	-	-	100 U	-	-	-	-	-	-	-	-
Benzene	µg/L	350	-	-	-	-	330	330	250	280	320	250	270	-	-
Bromodichloromethane	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Bromoform	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Carbon disulfide	µg/L	14 U	-	-	-	-	10 U	11 U	8.0 U	10 U	10 U	8.0 U	8.0 U	-	-
Carbon tetrachloride	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	14 U	-	-	-	-	10 U	11 U	8.0 U	10 U	10 U	8.0 U	8.0 U	-	-
Chloroethane	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	µg/L	14 U	-	-	-	-	10 U	11 U	8.0 U	10 U	10 U	8.0 U	8.0 U	-	-
Chloromethane (Methyl chloride)	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Cyclohexane	µg/L	-	-	-	-	-	160	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Ethylbenzene	µg/L	7.7 J	-	-	-	-	10 U	270	140	210	230	170	190	-	-
Isopropyl benzene	µg/L	-	-	-	-	-	28	-	-	-	-	-	-	-	-
Methyl acetate	µg/L	-	-	-	-	-	100 U	-	-	-	-	-	-	-	-
Methyl cyclohexane	µg/L	-	-	-	-	-	150	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	µg/L	71 U	-	-	-	-	50 U	56 U	40 U	50 U	50 U	40 U	40 U	-	-
Methylene chloride	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Styrene	µg/L	14 U	-	-	-	-	10 U	11 U	8.0 U	10 U	10 U	8.0 U	8.0 U	-	-
Tetrachloroethene	µg/L	14 U	-	-	-	-	10 U	11 U	8.0 U	10 U	10 U	8.0 U	8.0 U	-	-
Toluene	µg/L	14	-	-	-	-	16	81	58	76	83	57	64	-	-
trans-1,2-Dichloroethene	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Trichloroethene	µg/L	14 U	-	-	-	-	10 U	11 U	8.0 U	10 U	10 U	8.0 U	8.0 U	-	-
Trichlorofluoromethane (CFC-11)	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Trifluorotrchloroethane (CFC-113)	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	34	-	-	-	-	41	430	260	380	410	290	330	-	-
Volatile Organic Compounds - BTEX															
Benzene	µg/L	-	360	340	310	300	-	-	-	-	-	-	-	190	240
Ethylbenzene	ug/L	-	4.8 J	4.2 J	10 U	13 U	-	-	-	-	-	-	-	160	220
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	15	14	14	15	-	-	-	-	-	-	-	53	60
Xylenes (total)	ug/L	-	33	29	28	38	-	-	-	-	-	-	-	280	330

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14
Sample ID:	GW-030508-KW-007	GW-103108-KW-011	GW-103108-KW-012	GW-080510-TW-05	GW-060211-JH-20	GW-110211-JH-32	GW-032307-JO-026	GW-060507-JO-03	GW-120707-SP-017	GW-120707-SP-018	GW-030708-KW-019	GW-030708-KW-020	GW-103108-KW-013	GW-080510-TW-09
Sample Date:	3/5/2008	10/31/2008	10/31/2008 (Duplicate)	8/5/2010	6/2/2011	11/2/2011	3/23/2007	6/5/2007	12/7/2007	12/7/2007 (Duplicate)	3/7/2008	3/7/2008 (Duplicate)	10/31/2008	8/5/2010
Parameters	Units													
Semi-volatile Organic Compounds														
1,2-Dichlorobenzene	µg/L	25 U	-	-	-	-	50 U	100 U	20 U	20 U	20 U	20 U	-	-
1,3-Dichlorobenzene	µg/L	25 U	-	-	-	-	50 U	100 U	20 U	20 U	20 U	20 U	-	-
1,4-Dichlorobenzene	µg/L	25 U	-	-	-	-	50 U	100 U	20 U	20 U	20 U	20 U	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	µg/L	-	-	-	-	20 U	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	µg/L	-	-	-	-	20 U	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	µg/L	-	-	-	-	7.9 U	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	µg/L	25 U	-	-	-	7.9 U	4.5 J	100 U	2.1 J	3.5 J	3.9 J	3.9 J	-	-
2,4-Dinitrophenol	µg/L	120 U	-	-	-	20 U	250 U	500 U	100 U	100 U	100 U	100 U	-	-
2,4-Dinitrotoluene	µg/L	-	-	-	-	20 U	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	µg/L	-	-	-	-	20 U	-	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
2-Chlorophenol	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	-	25	-	-	-	-	-	-	-	-
2-Methylphenol	µg/L	25 U	-	-	-	4.0 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
2-Nitroaniline	µg/L	-	-	-	-	7.9 U	-	-	-	-	-	-	-	-
2-Nitrophenol	µg/L	-	-	-	-	7.9 U	-	-	-	-	-	-	-	-
3&4-Methylphenol	µg/L	-	-	-	-	7.9 U	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	-	-	-	20 U	-	-	-	-	-	-	-	-
3-Methylphenol	µg/L	25 U	-	-	-	-	50 U	100 U	20 U	20 U	20 U	20 U	-	-
3-Nitroaniline	µg/L	-	-	-	-	7.9 U	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	-	-	-	20 U	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	-	-	-	7.9 U	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	µg/L	-	-	-	-	7.9 U	-	-	-	-	-	-	-	-
4-Chloroaniline	µg/L	-	-	-	-	7.9 U	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	-	-	-	7.9 U	-	-	-	-	-	-	-	-
4-Methylphenol	µg/L	25 U	-	-	-	-	50 U	100 U	20 U	20 U	20 U	20 U	-	-
4-Nitroaniline	µg/L	-	-	-	-	7.9 U	-	-	-	-	-	-	-	-
4-Nitrophenol	µg/L	120 U	-	-	-	20 U	250 U	500 U	100 U	100 U	100 U	100 U	-	-
Acenaphthene	µg/L	5.7 J	-	-	-	4.6	50 U	100 U	2.7 J	2.8 J	1.8 J	1.8 J	-	-
Acenaphthylene	µg/L	-	-	-	-	0.79 U	-	-	-	-	-	-	-	-
Acetophenone	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Anthracene	µg/L	25 U	-	-	-	0.79 U	2.3 J	100 U	20 U	20 U	0.72 J	0.91 J	-	-
Atrazine	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Benzaldehyde	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Benzo(a)anthracene	µg/L	25 U	-	-	-	0.79 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Benzo(a)pyrene	µg/L	25 U	-	-	-	0.79 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Benzo(b)fluoranthene	µg/L	25 U	-	-	-	0.79 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Benzo(b)pyridine (Quinoline)	µg/L	25 U	-	-	-	-	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	-	0.79 U	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	25 U	-	-	-	0.79 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Biphenyl (1,1-Biphenyl)	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	25 U	-	-	-	7.9 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Butyl benzylphthalate (BBP)	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Caprolactam	µg/L	-	-	-	-	20 U	-	-	-	-	-	-	-	-
Carbazole	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Chrysene	µg/L	25 U	-	-	-	0.79 U	50 U	100 U	20 U	20 U	20 U	0.52 J	-	-
Dibenz(a,h)anthracene	µg/L	25 U	-	-	-	0.79 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Dibenzofuran	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Diethyl phthalate	µg/L	25 U	-	-	-	4.0 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Dimethyl phthalate	µg/L	25 U	-	-	-	4.0 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Di-n-butylphthalate (DBP)	µg/L	25 U	-	-	-	4.0 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Di-n-octyl phthalate (DnOP)	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Fluoranthene	µg/L	25 U	-	-	-	0.79 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Fluorene	µg/L	5.6 J	-	-	-	4.7	9.1 J	6.9 J	4.6 J	4.3 J	3.1 J	2.9 J	-	-
Hexachlorobenzene	µg/L	-	-	-	-	0.79 U	-	-	-	-	-	-	-	-
Hexachlorobutadiene	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Hexachloroethane	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	25 U	-	-	-	0.79 U	50 U	100 U	20 U	20 U	20 U	20 U	-	-
Isophorone	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Naphthalene	µg/L	25 U	-	-	-	0.79 U	110	45 J	46	52	50	56	-	-
Nitrobenzene	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	µg/L	-	-	-	-	4.0 U	-	-	-	-	-	-	-	-
Pentachlorophenol	µg/L	-	-	-	-	20 U	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	6.6 J	-	-	-	5.4	33 J	17 J	11 J	7.3 J	10 J	11 J	-	-
Phenol	µg/L	6.1 J	-	-	-	4.0 U	8.5 J	100 U	20 U	20 U	1.9 J	1.9 J	-	-
Pyrene	µg/L	25 U	-	-	-	0.79 U	2.1 J	100 U	20 U	20 U	0.90 J	0.99 J	-	-
Pyridine	µg/L	50 U	-	-	-	-	100 U	200 U	40 U	40 U	40 U	40 U	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14	MW-14
Sample ID:	GW-030508-KW-007	GW-103108-KW-011	GW-103108-KW-012	GW-080510-TW-05	GW-060211-JH-20	GW-110211-JH-32	GW-032307-JO-026	GW-060507-JO-03	GW-120707-SP-017	GW-120707-SP-018	GW-030708-KW-019	GW-030708-KW-020	GW-103108-KW-013	GW-080510-TW-09
Sample Date:	3/5/2008	10/31/2008	10/31/2008 (Duplicate)	8/5/2010	6/2/2011	11/2/2011	3/23/2007	6/5/2007	12/7/2007	12/7/2007 (Duplicate)	3/7/2008	3/7/2008 (Duplicate)	10/31/2008	8/5/2010
Parameters	Units													
Metals														
Aluminum	µg/L	-	-	-	-	-	200 U	-	-	-	-	-	-	-
Antimony	µg/L	60.0 U	-	-	-	-	10 U	60.0 U	60.0 U	60.0 U	60.0 U	60.0 U	60.0 U	-
Arsenic	µg/L	10.0 U	-	-	10.0 U	-	10 U	10.9	8.7 J	5.1 J	5.4 J	4.5 J	10.0 U	-
Arsenic (dissolved)	µg/L	-	3.3 J	10.0 U	-	-	-	-	-	-	-	-	14.8	-
Barium	µg/L	106 J	-	-	-	-	200 U	84.7 J	77.6 J	81.6 J	77.7 J	77.1 J	78.1 J	-
Beryllium	µg/L	5.0 U	-	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Cadmium	µg/L	5.0 U	-	-	-	-	2.0 U	0.44 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-
Calcium	µg/L	-	-	-	-	-	140000	-	-	-	-	-	-	-
Chromium	µg/L	10.0 U	-	-	-	-	5.0 U	1.7 J	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-
Cobalt	µg/L	50.0 U	-	-	-	-	7.0 U	1.6 J	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	-
Copper	µg/L	-	-	-	-	-	25 U	-	-	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	2900	-	-	-	-	-	-	-
Lead	µg/L	3.0 U	-	-	-	-	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	-
Magnesium	µg/L	-	-	-	-	-	10000	-	-	-	-	-	-	-
Manganese	µg/L	-	-	-	-	-	850	-	-	-	-	-	-	-
Mercury	µg/L	0.20 U	-	-	-	-	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	-
Nickel	µg/L	40.0 U	-	-	-	-	40 U	1.7 J	40.0 U	40.0 U	40.0 U	40.0 U	40.0 U	-
Potassium	µg/L	-	-	-	-	-	6400	-	-	-	-	-	-	-
Selenium	µg/L	5.0 U	-	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U	4.8 J	5.0 U	5.0 U	-
Silver	µg/L	10.0 U	-	-	-	-	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-
Sodium	µg/L	-	-	-	-	-	5000 U	-	-	-	-	-	-	-
Thallium	µg/L	-	-	-	-	-	10 U	-	-	-	-	-	-	-
Vanadium	µg/L	3.5 J	-	-	-	-	7.0 U	50.0 U	50.0 U	2.0 J	1.6 J	0.91 J	1.4 J	-
Zinc	µg/L	20.0 U	-	-	-	-	50 U	182	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	-
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	-	-	-	-	0.48 U	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	-	-	-	0.48 U	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	-	-	-	0.48 U	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	-	-	-	0.48 U	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	-	-	-	0.48 U	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	-	-	-	0.48 U	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	-	-	-	0.48 U	-	-	-	-	-	-	-
General Chemistry														
Cyanide (total)	µg/L	10 U	-	-	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	-

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

**Analytical Results Summary - Groundwater
Former East Chicago Refinery**

Sample Location:	MW-14	MW-14	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-16	MW-16	MW-16	MW-16	
Sample ID:	GW-060211-JH-23	GW-110211-JH-38	GW-032307-JO-027	GW-060507-JO-02	GW-120707-SP-019	GW-030608-KW-015	GW-103008-KW-010	GW-080510-TW-07	GW-060611-JH-50	GW-110311-JH-41	GW-032307-JO-028	GW-060507-JO-01	GW-120607-SP-015	GW-030708-KW-018	
Sample Date:	6/2/2011	11/2/2011	3/23/2007	6/5/2007	12/7/2007	3/6/2008	10/30/2008	8/5/2010	6/6/2011	11/3/2011	3/23/2007	6/5/2007	12/6/2007	3/7/2008	
Parameters	Units														
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	-	15 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	2.5 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,1,2-Trichloroethane	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,1-Dichloroethane	µg/L	-	15 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	2.5 U	5.0 U
1,1-Dichloroethene	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,2,4-Trichlorobenzene	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	31 U	-	-	-	-	-	-	-	2.0 U	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	15 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	2.5 U	5.0 U
1,2-Dichlorobenzene	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,2-Dichloroethane	µg/L	-	15 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	2.5 U	5.0 U
1,2-Dichloropropane	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
1,4-Dioxane	µg/L	-	-	200 U	200 U	200 U	200 U	-	-	-	-	4000 U	500 U	500 U	1000 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	150 U	10 U	10 U	10 U	10 U	-	-	-	10 U	200 U	25 U	25 U	50 U
2-Hexanone	µg/L	-	150 U	-	-	-	-	-	-	-	10 U	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	150 U	-	-	-	-	-	-	-	10 U	-	-	-	-
Acetone	µg/L	-	150 U	-	-	-	-	-	-	-	10 U	-	-	-	-
Benzene	µg/L	-	300	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	0.89 J	5.0 U
Bromodichloromethane	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Bromoform	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Bromomethane (Methyl bromide)	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Carbon disulfide	µg/L	-	15 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	2.5 U	5.0 U
Carbon tetrachloride	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Chlorobenzene	µg/L	-	15 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	2.5 U	5.0 U
Chloroethane	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Chloroform (Trichloromethane)	µg/L	-	15 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	2.5 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
cis-1,2-Dichloroethene	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
cis-1,3-Dichloropropene	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Cyclohexane	µg/L	-	79	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Dibromochloromethane	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Dichlorodifluoromethane (CFC-12)	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Ethylbenzene	µg/L	-	260	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	710	43	42	160
Isopropyl benzene	µg/L	-	18	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Methyl acetate	µg/L	-	150 U	-	-	-	-	-	-	-	10 U	-	-	-	-
Methyl cyclohexane	µg/L	-	54	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Methyl tert butyl ether (MTBE)	µg/L	-	77 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	5.0 U	100 U	12 U	12 U	25 U
Methylene chloride	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Styrene	µg/L	-	15 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	2.5 U	5.0 U
Tetrachloroethene	µg/L	-	15 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	2.5 U	5.0 U
Toluene	µg/L	-	80	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	7.0 J	2.5 U	2.5 U	5.0 U
trans-1,2-Dichloroethene	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
trans-1,3-Dichloropropene	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Trichloroethene	µg/L	-	15 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	1.0 U	20 U	2.5 U	2.5 U	5.0 U
Trichlorofluoromethane (CFC-11)	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Trifluorotrchloroethane (CFC-113)	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Vinyl chloride	µg/L	-	15 U	-	-	-	-	-	-	-	1.0 U	-	-	-	-
Xylenes (total)	µg/L	-	370	2.0 U	2.0 U	2.0 U	2.0 U	-	-	-	2.0 U	150	12	19	33
Volatile Organic Compounds - BTEX															
Benzene	µg/L	250	-	-	-	-	-	1.0 U	1.0 U	1.0 U	-	-	-	-	-
Ethylbenzene	ug/L	240	-	-	-	-	-	1.0 U	1.0 U	1.0 U	-	-	-	-	-
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	65	-	-	-	-	-	1.0 U	1.0 U	1.0 U	-	-	-	-	-
Xylenes (total)	ug/L	360	-	-	-	-	-	2.0 U	2.0 U	2.0 U	-	-	-	-	-

Table 2

**Analytical Results Summary - Groundwater
Former East Chicago Refinery**

Sample Location:	MW-14	MW-14	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-16	MW-16	MW-16	MW-16	
Sample ID:	GW-060211-JH-23	GW-110211-JH-38	GW-032307-JO-027	GW-060507-JO-02	GW-120707-SP-019	GW-030608-KW-015	GW-103008-KW-010	GW-080510-TW-07	GW-060611-JH-50	GW-110311-JH-41	GW-032307-JO-028	GW-060507-JO-01	GW-120607-SP-015	GW-030708-KW-018	
Sample Date:	6/2/2011	11/2/2011	3/23/2007	6/5/2007	12/7/2007	3/6/2008	10/30/2008	8/5/2010	6/6/2011	11/3/2011	3/23/2007	6/5/2007	12/6/2007	3/7/2008	
Parameters	Units														
Semi-volatile Organic Compounds															
1,2-Dichlorobenzene	µg/L	-	-	10 U	10 U	10 U	10 U	-	-	-	-	100 U	10 U	10 U	10 U
1,3-Dichlorobenzene	µg/L	-	-	10 U	10 U	10 U	10 U	-	-	-	-	100 U	10 U	10 U	10 U
1,4-Dichlorobenzene	µg/L	-	-	10 U	10 U	10 U	10 U	-	-	-	-	100 U	10 U	10 U	10 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
2,4,5-Trichlorophenol	µg/L	-	19 U	-	-	-	-	-	-	5.0 U	-	-	-	-	-
2,4,6-Trichlorophenol	µg/L	-	19 U	-	-	-	-	-	-	5.0 U	-	-	-	-	-
2,4-Dichlorophenol	µg/L	-	7.7 U	-	-	-	-	-	-	2.0 U	-	-	-	-	-
2,4-Dimethylphenol	µg/L	-	7.7 U	10 U	10 U	10 U	10 U	-	-	2.0 U	100 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	µg/L	-	19 U	50 U	50 U	50 U	50 U	-	-	5.0 U	500 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	µg/L	-	19 U	-	-	-	-	-	-	5.0 U	-	-	-	-	-
2,6-Dinitrotoluene	µg/L	-	19 U	-	-	-	-	-	-	5.0 U	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
2-Chlorophenol	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	110	-	-	-	-	-	-	0.20 U	-	-	-	-	-
2-Methylphenol	µg/L	-	3.8 U	10 U	10 U	10 U	10 U	-	-	0.99 U	100 U	10 U	10 U	10 U	10 U
2-Nitroaniline	µg/L	-	7.7 U	-	-	-	-	-	-	2.0 U	-	-	-	-	-
2-Nitrophenol	µg/L	-	7.7 U	-	-	-	-	-	-	2.0 U	-	-	-	-	-
3&4-Methylphenol	µg/L	-	7.7 U	-	-	-	-	-	-	2.0 U	-	-	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	19 U	-	-	-	-	-	-	5.0 U	-	-	-	-	-
3-Methylphenol	µg/L	-	-	10 U	10 U	10 U	10 U	-	-	-	100 U	10 U	10 U	10 U	1.0 J
3-Nitroaniline	µg/L	-	7.7 U	-	-	-	-	-	-	2.0 U	-	-	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	19 U	-	-	-	-	-	-	5.0 U	-	-	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	7.7 U	-	-	-	-	-	-	2.0 U	-	-	-	-	-
4-Chloro-3-methylphenol	µg/L	-	7.7 U	-	-	-	-	-	-	2.0 U	-	-	-	-	-
4-Chloroaniline	µg/L	-	7.7 U	-	-	-	-	-	-	2.0 U	-	-	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	7.7 U	-	-	-	-	-	-	2.0 U	-	-	-	-	-
4-Methylphenol	µg/L	-	-	10 U	10 U	10 U	10 U	-	-	-	100 U	10 U	10 U	10 U	1.0 J
4-Nitroaniline	µg/L	-	7.7 U	-	-	-	-	-	-	2.0 U	-	-	-	-	-
4-Nitrophenol	µg/L	-	19 U	50 U	50 U	50 U	50 U	-	-	5.0 U	500 U	50 U	50 U	50 U	50 U
Acenaphthene	µg/L	-	3.2	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	0.79 J
Acenaphthylene	µg/L	-	0.77 U	-	-	-	-	-	-	0.20 U	-	-	-	-	-
Acetophenone	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Anthracene	µg/L	-	1.5	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	10 U
Atrazine	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Benzaldehyde	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Benzo(a)anthracene	µg/L	-	0.77 U	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	µg/L	-	0.77 U	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	µg/L	-	0.77 U	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	10 U
Benzo(b)pyridine (Quinoline)	µg/L	-	-	10 U	10 U	10 U	10 U	-	-	-	100 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	µg/L	-	0.77 U	-	-	-	-	-	-	0.20 U	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	0.77 U	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	10 U
Biphenyl (1,1-Biphenyl)	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	7.7 U	10 U	10 U	10 U	10 U	-	-	2.0 U	100 U	10 U	10 U	10 U	2.6 J
Butyl benzylphthalate (BBP)	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Caprolactam	µg/L	-	19 U	-	-	-	-	-	-	5.0 U	-	-	-	-	-
Carbazole	µg/L	-	77	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Chrysene	µg/L	-	0.77 U	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	µg/L	-	0.77 U	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	10 U
Dibenzofuran	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Diethyl phthalate	µg/L	-	3.8 U	10 U	10 U	10 U	10 U	-	-	0.99 U	100 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	µg/L	-	3.8 U	10 U	10 U	10 U	10 U	-	-	0.99 U	100 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate (DBP)	µg/L	-	3.8 U	0.62 J	10 U	10 U	10 U	-	-	0.99 U	100 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate (DnOP)	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Fluoranthene	µg/L	-	0.77 U	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	10 U
Fluorene	µg/L	-	6.3	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	0.52 J
Hexachlorobenzene	µg/L	-	0.77 U	-	-	-	-	-	-	0.20 U	-	-	-	-	-
Hexachlorobutadiene	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Hexachlorocyclopentadiene	µg/L	-	3.8 U	-	-	-	-	-	-	9.9 U	-	-	-	-	-
Hexachloroethane	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	0.77 U	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	10 U
Isophorone	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Naphthalene	µg/L	-	27	10 U	10 U	10 U	10 U	-	-	0.20 U	270	20	10 U	10 U	10 U
Nitrobenzene	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
N-Nitrosodiphenylamine	µg/L	-	3.8 U	-	-	-	-	-	-	0.99 U	-	-	-	-	-
Pentachlorophenol	µg/L	-	19 U	-	-	-	-	-	-	5.0 U	-	-	-	-	-
Phenanthrene	µg/L	-	21	0.35 J	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	10 U
Phenol	µg/L	-	3.8 U	10 U	10 U	10 U	10 U	-	-	0.99 U	100 U	10 U	10 U	10 U	10 U
Pyrene	µg/L	-	0.77 U	10 U	10 U	10 U	10 U	-	-	0.20 U	100 U	10 U	10 U	10 U	0.22 J
Pyridine	µg/L	-	-	20 U	20 U	20 U	20 U	-	-	-	200 U	20 U	20 U	20 U	20 U

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-14	MW-14	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-15	MW-16	MW-16	MW-16	MW-16
Sample ID:	GW-060211-JH-23	GW-110211-JH-38	GW-032307-JO-027	GW-060507-JO-02	GW-120707-SP-019	GW-030608-KW-015	GW-103008-KW-010	GW-080510-TW-07	GW-060611-JH-50	GW-110311-JH-41	GW-032307-JO-028	GW-060507-JO-01	GW-120607-SP-015	GW-030708-KW-018
Sample Date:	6/2/2011	11/2/2011	3/23/2007	6/5/2007	12/7/2007	3/6/2008	10/30/2008	8/5/2010	6/6/2011	11/3/2011	3/23/2007	6/5/2007	12/6/2007	3/7/2008
Parameters	Units													
Metals														
Aluminum	µg/L	-	200 U	-	-	-	-	-	-	-	200 U	-	-	-
Antimony	µg/L	-	10 U	60.0 U	60.0 U	60.0 U	60.0 U	-	-	-	10 U	60.0 U	60.0 U	60.0 U
Arsenic	µg/L	-	17	22.6	16.6	20.5	12.4	-	27.5	-	14	10.0 U	5.8 J	31.9
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	21.5	-	-	-	-	-	-
Barium	µg/L	-	200 U	71.5 J	64.5 J	64.3 J	38.7 J	-	-	-	200 U	36.8 J	45.2 J	239
Beryllium	µg/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U
Cadmium	µg/L	-	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	2.0 U	5.0 U	5.0 U	5.0 U
Calcium	µg/L	-	110000	-	-	-	-	-	-	-	56000	-	-	-
Chromium	µg/L	-	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	-	-	5.0 U	10.0 U	10.0 U	10.0 U
Cobalt	µg/L	-	7.0 U	1.3 J	50.0 U	50.0 U	50.0 U	-	-	-	7.0 U	50.0 U	2.8 J	50.0 U
Copper	µg/L	-	25 U	-	-	-	-	-	-	-	25 U	-	-	-
Iron	µg/L	-	25000	-	-	-	-	-	-	-	1200	-	-	-
Lead	µg/L	-	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	-	-	-	3.0 U	3.0 U	3.0 U	3.0 U
Magnesium	µg/L	-	10000	-	-	-	-	-	-	-	33000	-	-	-
Manganese	µg/L	-	710	-	-	-	-	-	-	-	150	-	-	-
Mercury	µg/L	-	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	-	-	-	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	µg/L	-	40 U	40.0 U	40.0 U	40.0 U	40.0 U	-	-	-	40 U	40.0 U	3.0 J	40.0 U
Potassium	µg/L	-	5000 U	-	-	-	-	-	-	-	5000 U	-	-	-
Selenium	µg/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U
Silver	µg/L	-	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	-	-	5.0 U	10.0 U	10.0 U	10.0 U
Sodium	µg/L	-	5000 U	-	-	-	-	-	-	-	5000 U	-	-	-
Thallium	µg/L	-	10 U	-	-	-	-	-	-	-	10 U	-	-	-
Vanadium	µg/L	-	7.0 U	50.0 U	50.0 U	50.0 U	50.0 U	-	-	-	7.0 U	50.0 U	50.0 U	50.0 U
Zinc	µg/L	-	50 U	78.5	20.0 U	20.0 U	20.0 U	-	-	-	50 U	12.8 J	20.0 U	20.0 U
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	0.48 U	-	-	-	-	-	-	-	0.51 U	-	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	0.48 U	-	-	-	-	-	-	-	0.51 U	-	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	0.48 U	-	-	-	-	-	-	-	0.51 U	-	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	0.48 U	-	-	-	-	-	-	-	0.51 U	-	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	0.48 U	-	-	-	-	-	-	-	0.51 U	-	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	0.48 U	-	-	-	-	-	-	-	0.51 U	-	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	0.48 U	-	-	-	-	-	-	-	0.51 U	-	-	-
General Chemistry														
Cyanide (total)	µg/L	-	10 U	10 U	10 U	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-16	MW-16	MW-16	MW-16	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	PZ-1	PZ-1	PZ-2	
Sample ID:	GW-103008-KW-008	GW-080610-TW-17	GW-060611-JH-49	GW-110211-JH-31	GW-032607-JO-029	GW-120607-SP-016	GW-030708-KW-021	GW-103008-KW-009	GW-080510-TW-08	GW-060311-JH-38	GW-110111-JH-20	GW-022306-NR-077	GW-022306-NR-078	GW-022306-NK-080	
Sample Date:	10/30/2008	8/6/2010	6/6/2011	11/2/2011	3/26/2007	12/6/2007	3/7/2008	10/30/2008	8/5/2010	6/3/2011	11/1/2011	2/23/2006	2/23/2006 (Duplicate)	2/23/2006	
Parameters	Units														
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	-	-	-	1.0 U	1.0 U	2.0 U	1.0 U	-	-	-	2.5 U	-	-	
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
1,1,2-Trichloroethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
1,1-Dichloroethane	µg/L	-	-	-	1.0 U	1.0 U	2.0 U	1.0 U	-	-	-	2.5 U	-	-	
1,1-Dichloroethene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
1,2,4-Trichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	5.0 U	-	-	
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	-	-	1.0 U	1.0 U	2.0 U	1.0 U	-	-	-	2.5 U	-	-	
1,2-Dichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
1,2-Dichloroethane	µg/L	-	-	-	1.0 U	1.0 U	2.0 U	1.0 U	-	-	-	2.5 U	-	-	
1,2-Dichloropropane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
1,3-Dichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
1,4-Dichlorobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
1,4-Dioxane	µg/L	-	-	-	-	200 U	400 U	200 U	-	-	-	-	-	-	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	-	-	10 U	0.83 J	20 U	10 U	-	-	-	25 U	-	-	
2-Hexanone	µg/L	-	-	-	10 U	-	-	-	-	-	-	25 U	-	-	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	-	10 U	-	-	-	-	-	-	25 U	-	-	
Acetone	µg/L	-	-	-	10 U	-	-	-	-	-	-	25 U	-	-	
Benzene	µg/L	-	-	-	1.0 U	1.2	13	20	-	-	-	2.5 U	-	-	
Bromodichloromethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Bromoform	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Bromomethane (Methyl bromide)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Carbon disulfide	µg/L	-	-	-	1.0 U	1.7	2.0 U	2.6 U	-	-	-	2.5 U	-	-	
Carbon tetrachloride	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Chlorobenzene	µg/L	-	-	-	1.0 U	1.0 U	2.0 U	1.0 U	-	-	-	2.5 U	-	-	
Chloroethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Chloroform (Trichloromethane)	µg/L	-	-	-	1.0 U	1.0 U	2.0 U	1.0 U	-	-	-	2.5 U	-	-	
Chloromethane (Methyl chloride)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
cis-1,2-Dichloroethene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
cis-1,3-Dichloropropene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Cyclohexane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	51	-	-	
Dibromochloromethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Ethylbenzene	µg/L	-	-	-	1.0 U	0.67 J	0.55 J	0.49 J	-	-	-	2.5 U	-	-	
Isopropyl benzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	52	-	-	
Methyl acetate	µg/L	-	-	-	10 U	-	-	-	-	-	-	25 U	-	-	
Methyl cyclohexane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	7.1	-	-	
Methyl tert butyl ether (MTBE)	µg/L	-	-	-	5.0 U	5.0 U	10 U	5.0 U	-	-	-	13 U	-	-	
Methylene chloride	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Styrene	µg/L	-	-	-	1.0 U	1.0 U	2.0 U	1.0 U	-	-	-	2.5 U	-	-	
Tetrachloroethene	µg/L	-	-	-	1.0 U	1.0 U	2.0 U	1.0 U	-	-	-	2.5 U	-	-	
Toluene	µg/L	-	-	-	1.0 U	0.89 J	0.99 J	1.1	-	-	-	2.5 U	-	-	
trans-1,2-Dichloroethene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
trans-1,3-Dichloropropene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Trichloroethene	µg/L	-	-	-	1.0 U	1.0 U	2.0 U	1.0 U	-	-	-	2.5 U	-	-	
Trichlorofluoromethane (CFC-11)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Trifluorotrifluoroethane (CFC-113)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Vinyl chloride	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	2.5 U	-	-	
Xylenes (total)	µg/L	-	-	-	4.1	2.6	2.8 J	2.9	-	-	-	5.0 U	-	-	
Volatile Organic Compounds - BTEX															
Benzene	µg/L	1.0 U	1.0 U	1.0 U	-	-	-	-	1.8	2.2	2.4	-	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.2	1.0 U	3.5	-	-	-	-	0.23 J	1.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	1.0 U	1.0 U	1.0 U	-	-	-	-	0.72 J	1.0 U	1.0 U	-	1.0 U	1.0 U	0.27 J
Xylenes (total)	ug/L	0.92 J	2.0 U	15	-	-	-	-	1.5 J	2.0 U	2.0 U	-	2.0 U	2.0 U	2.0 U

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-16	MW-16	MW-16	MW-16	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	PZ-1	PZ-1	PZ-2
Sample ID:	GW-103008-KW-008	GW-080610-TW-17	GW-060611-JH-49	GW-110211-JH-31	GW-032607-JO-029	GW-120607-SP-016	GW-030708-KW-021	GW-103008-KW-009	GW-080510-TW-08	GW-060311-JH-38	GW-110111-JH-20	GW-022306-NR-077	GW-022306-NR-078	GW-022306-NK-080
Sample Date:	10/30/2008	8/6/2010	6/6/2011	11/2/2011	3/26/2007	12/6/2007	3/7/2008	10/30/2008	8/5/2010	6/3/2011	11/1/2011	2/23/2006	2/23/2006 (Duplicate)	2/23/2006
Parameters	Units													
Semi-volatile Organic Compounds														
1,2-Dichlorobenzene	µg/L	-	-	-	-	100 U	25 U	50 U	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	100 U	25 U	50 U	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	100 U	25 U	50 U	-	-	-	-	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
2,4,5-Trichlorophenol	µg/L	-	-	-	5.0 U	-	-	-	-	-	-	24 U	-	-
2,4,6-Trichlorophenol	µg/L	-	-	-	5.0 U	-	-	-	-	-	-	24 U	-	-
2,4-Dichlorophenol	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	9.6 U	-	-
2,4-Dimethylphenol	µg/L	-	-	-	2.0 U	100 U	25 U	50 U	-	-	-	9.6 U	-	-
2,4-Dinitrophenol	µg/L	-	-	-	5.0 U	500 U	120 U	250 U	-	-	-	24 U	-	-
2,4-Dinitrotoluene	µg/L	-	-	-	5.0 U	-	-	-	-	-	-	24 U	-	-
2,6-Dinitrotoluene	µg/L	-	-	-	5.0 U	-	-	-	-	-	-	24 U	-	-
2-Chloronaphthalene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
2-Chlorophenol	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
2-Methylnaphthalene	µg/L	-	-	-	0.20 U	-	-	-	-	-	-	0.96 U	-	-
2-Methylphenol	µg/L	-	-	-	1.0 U	100 U	25 U	50 U	-	-	-	4.8 U	-	-
2-Nitroaniline	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	9.6 U	-	-
2-Nitrophenol	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	9.6 U	-	-
3&4-Methylphenol	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	9.6 U	-	-
3,3'-Dichlorobenzidine	µg/L	-	-	-	R	-	-	-	-	-	-	24 U	-	-
3-Methylphenol	µg/L	-	-	-	-	100 U	25 U	50 U	-	-	-	-	-	-
3-Nitroaniline	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	9.6 U	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	-	-	5.0 U	-	-	-	-	-	-	24 U	-	-
4-Bromophenyl phenyl ether	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	9.6 U	-	-
4-Chloro-3-methylphenol	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	9.6 U	-	-
4-Chloroaniline	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	9.6 U	-	-
4-Chlorophenyl phenyl ether	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	9.6 U	-	-
4-Methylphenol	µg/L	-	-	-	-	100 U	25 U	50 U	-	-	-	-	-	-
4-Nitroaniline	µg/L	-	-	-	2.0 U	-	-	-	-	-	-	9.6 U	-	-
4-Nitrophenol	µg/L	-	-	-	5.0 U	500 U	120 U	250 U	-	-	-	24 U	-	-
Acenaphthene	µg/L	-	-	-	0.20 U	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Acenaphthylene	µg/L	-	-	-	0.20 U	-	-	-	-	-	-	0.96 U	-	-
Acetophenone	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
Anthracene	µg/L	-	-	-	0.20 U	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Atrazine	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
Benzaldehyde	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
Benzo(a)anthracene	µg/L	-	-	-	0.20 UJ	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Benzo(a)pyrene	µg/L	-	-	-	0.20 UJ	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Benzo(b)fluoranthene	µg/L	-	-	-	0.20 U	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Benzo(b)pyridine (Quinoline)	µg/L	-	-	-	-	100 U	25 U	50 U	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	0.20 UJ	-	-	-	-	-	-	0.96 U	-	-
Benzo(k)fluoranthene	µg/L	-	-	-	0.20 U	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Biphenyl (1,1-Biphenyl)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
bis(2-Chloroethoxy)methane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
bis(2-Chloroethyl)ether	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	-	-	2.0 UJ	100 U	25 U	50 U	-	-	-	9.6 U	-	-
Butyl benzylphthalate (BBP)	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
Caprolactam	µg/L	-	-	-	5.0 UJ	-	-	-	-	-	-	24 U	-	-
Carbazole	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
Chrysene	µg/L	-	-	-	0.20 U	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Dibenz(a,h)anthracene	µg/L	-	-	-	0.20 UJ	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Dibenzofuran	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
Diethyl phthalate	µg/L	-	-	-	1.0 U	100 U	25 U	50 U	-	-	-	4.8 U	-	-
Dimethyl phthalate	µg/L	-	-	-	1.0 U	100 U	25 U	50 U	-	-	-	4.8 U	-	-
Di-n-butylphthalate (DBP)	µg/L	-	-	-	1.0 U	100 U	25 U	50 U	-	-	-	4.8 U	-	-
Di-n-octyl phthalate (DnOP)	µg/L	-	-	-	1.0 UJ	-	-	-	-	-	-	4.8 U	-	-
Fluoranthene	µg/L	-	-	-	0.20 U	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Fluorene	µg/L	-	-	-	0.20 U	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Hexachlorobenzene	µg/L	-	-	-	0.20 U	-	-	-	-	-	-	0.96 U	-	-
Hexachlorobutadiene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
Hexachlorocyclopentadiene	µg/L	-	-	-	10 U	-	-	-	-	-	-	48 U	-	-
Hexachloroethane	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	-	0.20 UJ	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Isophorone	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
Naphthalene	µg/L	-	-	-	1.4	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Nitrobenzene	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
N-Nitrosodi-n-propylamine	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
N-Nitrosodiphenylamine	µg/L	-	-	-	1.0 U	-	-	-	-	-	-	4.8 U	-	-
Pentachlorophenol	µg/L	-	-	-	5.0 U	-	-	-	-	-	-	24 U	-	-
Phenanthrene	µg/L	-	-	-	0.20 U	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Phenol	µg/L	-	-	-	1.0 U	100 U	25 U	50 U	-	-	-	4.8 U	-	-
Pyrene	µg/L	-	-	-	0.20 U	100 U	25 U	50 U	-	-	-	0.96 U	-	-
Pyridine	µg/L	-	-	-	-	200 U	50 U	100 U	-	-	-	-	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	MW-16	MW-16	MW-16	MW-16	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	PZ-1	PZ-1	PZ-2
Sample ID:	GW-103008-KW-008	GW-080610-TW-17	GW-060611-JH-49	GW-110211-JH-31	GW-032607-JO-029	GW-120607-SP-016	GW-030708-KW-021	GW-103008-KW-009	GW-080510-TW-08	GW-060311-JH-38	GW-110111-JH-20	GW-022306-NR-077	GW-022306-NR-078	GW-022306-NK-080
Sample Date:	10/30/2008	8/6/2010	6/6/2011	11/2/2011	3/26/2007	12/6/2007	3/7/2008	10/30/2008	8/5/2010	6/3/2011	11/1/2011	2/23/2006	2/23/2006 (Duplicate)	2/23/2006
Parameters	Units													
Metals														
Aluminum	µg/L	-	-	-	200 U	-	-	-	-	-	-	200 U	-	-
Antimony	µg/L	-	-	-	10 U	60.0 U	60.0 U	60.0 U	-	-	-	10 U	-	-
Arsenic	µg/L	-	76.1	-	29	10.0 U	10.0 U	6.3 J	-	10.0 U	-	10 U	-	-
Arsenic (dissolved)	µg/L	101	-	-	-	-	-	-	3.3 J	-	-	-	-	-
Barium	µg/L	-	-	-	200 U	81.5 J	63.7 J	159 J	-	-	-	200 U	-	-
Beryllium	µg/L	-	-	-	5.0 U	5.0 U	5.0 U	5.0 U	-	-	-	5.0 U	-	-
Cadmium	µg/L	-	-	-	2.0 U	5.0 U	5.0 U	5.0 U	-	-	-	2.0 U	-	-
Calcium	µg/L	-	-	-	88000	-	-	-	-	-	-	350000	-	-
Chromium	µg/L	-	-	-	5.0 U	2.9 J	10.0 U	10.0 U	-	-	-	5.0 U	-	-
Cobalt	µg/L	-	-	-	7.0 U	50.0 U	50.0 U	50.0 U	-	-	-	7.0 U	-	-
Copper	µg/L	-	-	-	25 U	-	-	-	-	-	-	25 U	-	-
Iron	µg/L	-	-	-	8500	-	-	-	-	-	-	1300	-	-
Lead	µg/L	-	-	-	3.0 U	3.0 U	2.9 J	6.0	-	-	-	3.0 U	-	-
Magnesium	µg/L	-	-	-	19000	-	-	-	-	-	-	15000	-	-
Manganese	µg/L	-	-	-	990	-	-	-	-	-	-	1100	-	-
Mercury	µg/L	-	-	-	0.20 U	0.20 U	0.20 U	0.20 U	-	-	-	0.20 U	-	-
Nickel	µg/L	-	-	-	40 U	4.3 J	40.0 U	40.0 U	-	-	-	40 U	-	-
Potassium	µg/L	-	-	-	5000 U	-	-	-	-	-	-	5900	-	-
Selenium	µg/L	-	-	-	5.0 U	2.5 J	5.0 U	5.0 U	-	-	-	5.0 U	-	-
Silver	µg/L	-	-	-	5.0 U	10.0 U	10.0 U	10.0 U	-	-	-	5.0 U	-	-
Sodium	µg/L	-	-	-	5000 U	-	-	-	-	-	-	5000 U	-	-
Thallium	µg/L	-	-	-	10 U	-	-	-	-	-	-	10 U	-	-
Vanadium	µg/L	-	-	-	7.0 U	16.0 J	12.0 J	1.9 J	-	-	-	11	-	-
Zinc	µg/L	-	-	-	50 U	20.0 U	20.0 U	11.5 J	-	-	-	50 U	-	-
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	-	-	0.51 U	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	-	0.51 U	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	-	0.51 U	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	-	0.51 U	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	-	0.51 U	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	-	0.51 U	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	-	0.51 U	-	-	-	-	-	-	0.48 U	-	-
General Chemistry														
Cyanide (total)	µg/L	-	-	-	10 U	10 U	10 U	21	-	-	-	10 U	-	-

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-3	PZ-3	PZ-4	PZ-4	PZ-5	PZ-6	PZ-6	PZ-C-D-3-4	PZ-F-5	PZ-H-4	PZ-H-4	PZ-I-4	PZ-I-4	PZ-I-5
Sample ID:	GW-022306-NR-068	GW-022306-NR-069	GW-022306-NR-083	GW-060111-JH-12	GW-022306-NR-075	GW-022306-NR-072	GW-060211-JH-25	GW-022306-NR-076	GW-022306-NR-074	GW-022306-NK-079	GW-060611-JH-40	GW-111910-GW-007	GW-060211-JH-24	GW-111910-GW-012
Sample Date:	2/23/2006	2/23/2006 (Duplicate)	2/23/2006	6/1/2011	2/23/2006	2/23/2006	6/2/2011	2/23/2006	2/23/2006	2/23/2006	6/6/2011	11/19/2010	6/2/2011	11/19/2010
Parameters	Units													
Volatile Organic Compounds														
1,1,1-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropyl benzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl acetate	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether (MTBE)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Trifluorotrchloroethane (CFC-113)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds - BTEX														
Benzene	µg/L	1.0 U	1.0 U	22	42	1.0 U	270 J	210	1.3	1.0 U	1.0 U	1.0 U	1.0 U	420
Ethylbenzene	ug/L	1.0 U	1.0 U	2.1	4.9	1.0 U	88 J	22	4.5	1.0 U	1.0 U	1.0 U	1.0 U	110
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	0.19 J	0.24 J	11	18	1.0 U	33 J	25	2.2	1.0 U	1.0 U	1.0 U	1.0 U	81
Xylenes (total)	ug/L	2.0 U	2.0 U	36	62	2.0 U	20 J	18 U	29	2.0 U	2.0 U	2.0 U	2.0 U	220

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-3	PZ-3	PZ-4	PZ-4	PZ-5	PZ-6	PZ-6	PZ-C-D-3-4	PZ-F-5	PZ-H-4	PZ-H-4	PZ-I-4	PZ-I-4	PZ-I-5
Sample ID:	GW-022306-NR-068	GW-022306-NR-069	GW-022306-NR-083	GW-060111-JH-12	GW-022306-NR-075	GW-022306-NR-072	GW-060211-JH-25	GW-022306-NR-076	GW-022306-NR-074	GW-022306-NK-079	GW-060611-JH-40	GW-111910-GW-007	GW-060211-JH-24	GW-111910-GW-012
Sample Date:	2/23/2006	2/23/2006 (Duplicate)	2/23/2006	6/1/2011	2/23/2006	2/23/2006	6/2/2011	2/23/2006	2/23/2006	2/23/2006	6/6/2011	11/19/2010	6/2/2011	11/19/2010
Parameters	Units													
Semi-volatile Organic Compounds														
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Atrazine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)pyridine (Quinoline)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Caprolactam	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyridine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-3	PZ-3	PZ-4	PZ-4	PZ-5	PZ-6	PZ-6	PZ-C-D-3-4	PZ-F-5	PZ-H-4	PZ-H-4	PZ-I-4	PZ-I-4	PZ-I-5	
Sample ID:	GW-022306-NR-068	GW-022306-NR-069	GW-022306-NR-083	GW-060111-JH-12	GW-022306-NR-075	GW-022306-NR-072	GW-060211-JH-25	GW-022306-NR-076	GW-022306-NR-074	GW-022306-NK-079	GW-060611-JH-40	GW-111910-GW-007	GW-060211-JH-24	GW-111910-GW-012	
Sample Date:	2/23/2006	2/23/2006 (Duplicate)	2/23/2006	6/1/2011	2/23/2006	2/23/2006	6/2/2011	2/23/2006	2/23/2006	2/23/2006	2/23/2006	6/6/2011	11/19/2010	6/2/2011	11/19/2010
Parameters	Units														
Metals															
Aluminum	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs															
Aroclor-1016 (PCB-1016)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Chemistry															
Cyanide (total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-I-5	PZ-I-5	PZ-I-6	PZ-I-6	PZ-I-6	PZ-J-3	PZ-J-3	PZ-J-4	PZ-J-4	PZ-J-5	PZ-J-5	PZ-J-5	PZ-J-7	PZ-J-7	
Sample ID:	GW-060111-JH-08	GW-110111-JH-27	GW-022306-NR-073	GW-111910-GW-014	GW-060211-JH-33	GW-111510-GW-001	GW-060611-JH-43	GW-111910-GW-006	GW-060211-JH-26	GW-111910-GW-013	GW-060111-JH-10	GW-110311-JH-44	GW-111910-GW-016	GW-060611-JH-45	
Sample Date:	6/1/2011	11/1/2011	2/23/2006	11/19/2010	6/2/2011	11/15/2010	6/6/2011	11/19/2010	6/2/2011	11/19/2010	6/1/2011	11/3/2011	11/19/2010	6/6/2011	
Parameters	Units														
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,1,2,2-Tetrachloroethane	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,1,2-Trichloroethane	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,1-Dichloroethane	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,1-Dichloroethene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,2,4-Trichlorobenzene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	29 U	-	-	-	-	-	-	-	-	-	8.0 U	-	
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,2-Dichlorobenzene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,2-Dichloroethane	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,2-Dichloropropane	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,3-Dichlorobenzene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,4-Dichlorobenzene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
1,4-Dioxane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	140 U	-	-	-	-	-	-	-	-	-	40 U	-	
2-Hexanone	µg/L	-	140 U	-	-	-	-	-	-	-	-	-	40 U	-	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	140 U	-	-	-	-	-	-	-	-	-	40 U	-	
Acetone	µg/L	-	140 U	-	-	-	-	-	-	-	-	-	40 U	-	
Benzene	µg/L	-	270	-	-	-	-	-	-	-	-	-	5.9	-	
Bromodichloromethane	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Bromoform	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Bromomethane (Methyl bromide)	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Carbon disulfide	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Carbon tetrachloride	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Chlorobenzene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	6.6	-	
Chloroethane	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Chloroform (Trichloromethane)	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Chloromethane (Methyl chloride)	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
cis-1,2-Dichloroethene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
cis-1,3-Dichloropropene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Cyclohexane	µg/L	-	270	-	-	-	-	-	-	-	-	-	40	-	
Dibromochloromethane	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Dichlorodifluoromethane (CFC-12)	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Ethylbenzene	µg/L	-	84	-	-	-	-	-	-	-	-	-	4.6	-	
Isopropyl benzene	µg/L	-	63	-	-	-	-	-	-	-	-	-	7.4	-	
Methyl acetate	µg/L	-	140 U	-	-	-	-	-	-	-	-	-	40 U	-	
Methyl cyclohexane	µg/L	-	390	-	-	-	-	-	-	-	-	-	100	-	
Methyl tert butyl ether (MTBE)	µg/L	-	71 U	-	-	-	-	-	-	-	-	-	20 U	-	
Methylene chloride	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Styrene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Tetrachloroethene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Toluene	µg/L	-	58	-	-	-	-	-	-	-	-	-	4.0 U	-	
trans-1,2-Dichloroethene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
trans-1,3-Dichloropropene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Trichloroethene	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Trichlorofluoromethane (CFC-11)	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Trifluorotrchloroethane (CFC-113)	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Vinyl chloride	µg/L	-	14 U	-	-	-	-	-	-	-	-	-	4.0 U	-	
Xylenes (total)	µg/L	-	270	-	-	-	-	-	-	-	-	-	15	-	
Volatile Organic Compounds - BTEX															
Benzene	µg/L	200	-	21	62	35	1 U	1.0 U	1.0 U	1.0 U	710	27	-	18	4.8
Ethylbenzene	ug/L	84	-	98	110	23	1 U	1.0 U	1.0 U	1.0 U	120	18	-	2.5 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	59	-	5.3 J	5.2	3.3 U	1 U	1.0 U	1.0 U	1.0 U	73	8.6	-	3.1	1.1
Xylenes (total)	ug/L	260	-	720	140	33	2 U	2.0 U	2.0 U	2.0 U	220	53	-	5.0 U	2.0 U

Table 2
Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-I-5	PZ-I-5	PZ-I-6	PZ-I-6	PZ-I-6	PZ-J-3	PZ-J-3	PZ-J-4	PZ-J-4	PZ-J-5	PZ-J-5	PZ-J-5	PZ-J-7	PZ-J-7
Sample ID:	GW-060111-JH-08	GW-110111-JH-27	GW-022306-NR-073	GW-111910-GW-014	GW-060211-JH-33	GW-111510-GW-001	GW-060611-JH-43	GW-111910-GW-006	GW-060211-JH-26	GW-111910-GW-013	GW-060111-JH-10	GW-110311-JH-44	GW-111910-GW-016	GW-060611-JH-45
Sample Date:	6/1/2011	11/1/2011	2/23/2006	11/19/2010	6/2/2011	11/15/2010	6/6/2011	11/19/2010	6/2/2011	11/19/2010	6/1/2011	11/3/2011	11/19/2010	6/6/2011
Parameters	Units													
Semi-volatile Organic Compounds														
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
2,4,5-Trichlorophenol	µg/L	-	33 U	-	-	-	-	-	-	-	-	4.8 U	-	-
2,4,6-Trichlorophenol	µg/L	-	33 U	-	-	-	-	-	-	-	-	4.8 U	-	-
2,4-Dichlorophenol	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
2,4-Dimethylphenol	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
2,4-Dinitrophenol	µg/L	-	33 U	-	-	-	-	-	-	-	-	4.8 U	-	-
2,4-Dinitrotoluene	µg/L	-	33 U	-	-	-	-	-	-	-	-	4.8 U	-	-
2,6-Dinitrotoluene	µg/L	-	33 U	-	-	-	-	-	-	-	-	4.8 U	-	-
2-Chloronaphthalene	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
2-Chlorophenol	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
2-Methylnaphthalene	µg/L	-	190	-	-	-	-	-	-	-	-	9.3	-	-
2-Methylphenol	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
2-Nitroaniline	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
2-Nitrophenol	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
3&4-Methylphenol	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
3,3'-Dichlorobenzidine	µg/L	-	33 U	-	-	-	-	-	-	-	-	4.8 U	-	-
3-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	33 U	-	-	-	-	-	-	-	-	4.8 U	-	-
4-Bromophenyl phenyl ether	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
4-Chloro-3-methylphenol	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
4-Chloroaniline	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
4-Chlorophenyl phenyl ether	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
4-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
4-Nitrophenol	µg/L	-	33 U	-	-	-	-	-	-	-	-	4.8 U	-	-
Acenaphthene	µg/L	-	6.4	-	-	-	-	-	-	-	-	1.1	-	-
Acenaphthylene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	0.19 U	-	-
Acetophenone	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Anthracene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	1.3	-	-
Atrazine	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Benzaldehyde	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Benzo(a)anthracene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	0.57	-	-
Benzo(a)pyrene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	0.34	-	-
Benzo(b)fluoranthene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	0.36	-	-
Benzo(b)pyridine (Quinoline)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	0.40	-	-
Benzo(k)fluoranthene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	0.19 U	-	-
Biphenyl (1,1'-Biphenyl)	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
bis(2-Chloroethoxy)methane	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
bis(2-Chloroethyl)ether	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	13 U	-	-	-	-	-	-	-	-	1.9 U	-	-
Butyl benzylphthalate (BBP)	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Caprolactam	µg/L	-	33 U	-	-	-	-	-	-	-	-	4.8 U	-	-
Carbazole	µg/L	-	9.0	-	-	-	-	-	-	-	-	12	-	-
Chrysene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	1.7	-	-
Dibenz(a,h)anthracene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	0.19 U	-	-
Dibenzofuran	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	1.0	-	-
Diethyl phthalate	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Dimethyl phthalate	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Di-n-butylphthalate (DBP)	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Di-n-octyl phthalate (DnOP)	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Fluoranthene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	0.61	-	-
Fluorene	µg/L	-	6.7	-	-	-	-	-	-	-	-	2.6	-	-
Hexachlorobenzene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	0.19 U	-	-
Hexachlorobutadiene	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Hexachlorocyclopentadiene	µg/L	-	65 U	-	-	-	-	-	-	-	-	9.5 U	-	-
Hexachloroethane	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	1.3 U	-	-	-	-	-	-	-	-	0.19 U	-	-
Isophorone	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Naphthalene	µg/L	-	7.0	-	-	-	-	-	-	-	-	2.1	-	-
Nitrobenzene	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
N-Nitrosodi-n-propylamine	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
N-Nitrosodiphenylamine	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Pentachlorophenol	µg/L	-	33 U	-	-	-	-	-	-	-	-	4.8 U	-	-
Phenanthrene	µg/L	-	13	-	-	-	-	-	-	-	-	6.0	-	-
Phenol	µg/L	-	6.5 U	-	-	-	-	-	-	-	-	0.95 U	-	-
Pyrene	µg/L	-	2.6	-	-	-	-	-	-	-	-	2.2	-	-
Pyridine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-I-5	PZ-I-5	PZ-I-6	PZ-I-6	PZ-I-6	PZ-J-3	PZ-J-3	PZ-J-4	PZ-J-4	PZ-J-5	PZ-J-5	PZ-J-5	PZ-J-7	PZ-J-7	
Sample ID:	GW-060111-JH-08	GW-110111-JH-27	GW-022306-NR-073	GW-111910-GW-014	GW-060211-JH-33	GW-111510-GW-001	GW-060611-JH-43	GW-111910-GW-006	GW-060211-JH-26	GW-111910-GW-013	GW-060111-JH-10	GW-110311-JH-44	GW-111910-GW-016	GW-060611-JH-45	
Sample Date:	6/1/2011	11/1/2011	2/23/2006	11/19/2010	6/2/2011	11/15/2010	6/6/2011	11/19/2010	6/2/2011	11/19/2010	6/1/2011	11/3/2011	11/19/2010	6/6/2011	
Parameters	Units														
Metals															
Aluminum	µg/L	-	200 U	-	-	-	-	-	-	-	-	-	700	-	-
Antimony	µg/L	-	10 U	-	-	-	-	-	-	-	-	-	10 U	-	-
Arsenic	µg/L	-	10 U	-	-	-	-	-	-	-	-	-	10 U	-	-
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/L	-	230	-	-	-	-	-	-	-	-	-	200 U	-	-
Beryllium	µg/L	-	5.0 U	-	-	-	-	-	-	-	-	-	5.0 U	-	-
Cadmium	µg/L	-	2.0 U	-	-	-	-	-	-	-	-	-	2.0 U	-	-
Calcium	µg/L	-	220000	-	-	-	-	-	-	-	-	-	100000	-	-
Chromium	µg/L	-	5.0 U	-	-	-	-	-	-	-	-	-	5.0 U	-	-
Cobalt	µg/L	-	7.0 U	-	-	-	-	-	-	-	-	-	7.0 U	-	-
Copper	µg/L	-	25 U	-	-	-	-	-	-	-	-	-	25 U	-	-
Iron	µg/L	-	3000	-	-	-	-	-	-	-	-	-	4200	-	-
Lead	µg/L	-	3.0 U	-	-	-	-	-	-	-	-	-	9.5	-	-
Magnesium	µg/L	-	18000	-	-	-	-	-	-	-	-	-	7500	-	-
Manganese	µg/L	-	2400	-	-	-	-	-	-	-	-	-	510	-	-
Mercury	µg/L	-	0.20 U	-	-	-	-	-	-	-	-	-	0.20 U	-	-
Nickel	µg/L	-	40 U	-	-	-	-	-	-	-	-	-	40 U	-	-
Potassium	µg/L	-	5000 U	-	-	-	-	-	-	-	-	-	5000 U	-	-
Selenium	µg/L	-	5.0 U	-	-	-	-	-	-	-	-	-	5.0 U	-	-
Silver	µg/L	-	5.0 U	-	-	-	-	-	-	-	-	-	5.0 U	-	-
Sodium	µg/L	-	5000 U	-	-	-	-	-	-	-	-	-	5000 U	-	-
Thallium	µg/L	-	10 U	-	-	-	-	-	-	-	-	-	10 U	-	-
Vanadium	µg/L	-	7.0 U	-	-	-	-	-	-	-	-	-	7.0 U	-	-
Zinc	µg/L	-	50 U	-	-	-	-	-	-	-	-	-	50 U	-	-
PCBs															
Aroclor-1016 (PCB-1016)	µg/L	-	-	-	-	-	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	2.5 U	-	-	-	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	2.5 U	-	-	-	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	2.5 U	-	-	-	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	2.5 U	-	-	-	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	2.5 U	-	-	-	-	-	-	-	-	-	0.48 U	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	-	-	-	-	-	-	-	-	-	0.48 U	-	-
General Chemistry															
Cyanide (total)	µg/L	-	12	-	-	-	-	-	-	-	-	-	10 U	-	-

Notes:

- J - Estimated concentration.
- R - Rejected.
- U - Not detected at the associated reporting limit.
- UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-J-7	PZ-J-7	PZ-K-3	PZ-K-3	PZ-K-3	PZ-K-3	PZ-K-4	PZ-K-4	PZ-K-6	PZ-K-6	PZ-L-2	PZ-L-3	PZ-L-3	PZ-L-4	
Sample ID:	GW-060611-JH-46	GW-110311-JH-46	GW-111510-GW-002	GW-060611-JH-41	GW-060611-JH-42	GW-110311-JH-48	GW-111910-GW-009	GW-060211-JH-28	GW-111910-GW-015	GW-060211-JH-31	GW-091611-JH-018	GW-111510-GW-003	GW-053111-JH-04	GW-111910-GW-008	
Sample Date:	6/6/2011	11/3/2011	11/15/2010	6/6/2011	6/6/2011	11/3/2011	11/19/2010	6/2/2011	11/19/2010	6/2/2011	9/16/2011	11/15/2010	5/31/2011	11/19/2010	
Parameters	(Duplicate)		(Duplicate)		(Duplicate)		(Duplicate)		(Duplicate)		(Duplicate)		(Duplicate)		
Units															
Volatile Organic Compounds															
1,1,1-Trichloroethane	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,1,2,2-Tetrachloroethane	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,1,2-Trichloroethane	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,1-Dichloroethane	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,1-Dichloroethene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,2,4-Trichlorobenzene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	2.0 U	-	-	-	2.0 U	-	-	-	-	-	-	-	
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,2-Dichlorobenzene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,2-Dichloroethane	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,2-Dichloropropane	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,3-Dichlorobenzene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,4-Dichlorobenzene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
1,4-Dioxane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	10 U	-	-	-	10 U	-	-	-	-	-	-	-	
2-Hexanone	µg/L	-	10 U	-	-	-	10 U	-	-	-	-	-	-	-	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	10 U	-	-	-	10 U	-	-	-	-	-	-	-	
Acetone	µg/L	-	10 U	-	-	-	10 U	-	-	-	-	-	-	-	
Benzene	µg/L	-	5.7	-	-	-	1.0 U	-	-	-	-	-	-	-	
Bromodichloromethane	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Bromofom	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Bromomethane (Methyl bromide)	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Carbon disulfide	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Carbon tetrachloride	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Chlorobenzene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Chloroethane	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Chloroform (Trichloromethane)	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Chloromethane (Methyl chloride)	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
cis-1,2-Dichloroethene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
cis-1,3-Dichloropropene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Cyclohexane	µg/L	-	26	-	-	-	1.0 U	-	-	-	-	-	-	-	
Dibromochloromethane	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Dichlorodifluoromethane (CFC-12)	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Ethylbenzene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Isopropyl benzene	µg/L	-	2.1	-	-	-	1.0 U	-	-	-	-	-	-	-	
Methyl acetate	µg/L	-	10 U	-	-	-	10 U	-	-	-	-	-	-	-	
Methyl cyclohexane	µg/L	-	26	-	-	-	1.0 U	-	-	-	-	-	-	-	
Methyl tert butyl ether (MTBE)	µg/L	-	5.0 U	-	-	-	5.0 U	-	-	-	-	-	-	-	
Methylene chloride	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Styrene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Tetrachloroethene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Toluene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
trans-1,2-Dichloroethene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
trans-1,3-Dichloropropene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Trichloroethene	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Trichlorofluoromethane (CFC-11)	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Trifluorotrchloroethane (CFC-113)	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Vinyl chloride	µg/L	-	1.0 U	-	-	-	1.0 U	-	-	-	-	-	-	-	
Xylenes (total)	µg/L	-	2.0 U	-	-	-	2.0 U	-	-	-	-	-	-	-	
Volatile Organic Compounds - BTEX															
Benzene	µg/L	4.6	-	1 U	1.0 U	1.0 U	-	2.8	2.1	2.1	2.8	54	1 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	-	1 U	1.0 U	1.0 U	-	1.7	1.0 U	1.3	1.0 U	40	1 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	13 U	-	-	-
Toluene	ug/L	1.0	-	0.93 J	1.0 U	1.0 U	-	6.4	3.7	3.7	1.3	14	0.64 J	1.0 U	1.0 U
Xylenes (total)	ug/L	2.0 U	-	1.3 J	2.0 U	2.0 U	-	46	21	7.6	4.4	190	1.2 J	2.0 U	2.0 U

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-J-7	PZ-J-7	PZ-K-3	PZ-K-3	PZ-K-3	PZ-K-3	PZ-K-4	PZ-K-4	PZ-K-6	PZ-K-6	PZ-L-2	PZ-L-3	PZ-L-3	PZ-L-4
Sample ID:	GW-060611-JH-46	GW-110311-JH-46	GW-111510-GW-002	GW-060611-JH-41	GW-060611-JH-42	GW-110311-JH-48	GW-111910-GW-009	GW-060211-JH-28	GW-111910-GW-015	GW-060211-JH-31	GW-091611-JH-018	GW-111510-GW-003	GW-053111-JH-04	GW-111910-GW-008
Sample Date:	6/6/2011	11/3/2011	11/15/2010	6/6/2011	6/6/2011	11/3/2011	11/19/2010	6/2/2011	11/19/2010	6/2/2011	9/16/2011	11/15/2010	5/31/2011	11/19/2010
Parameters	(Duplicate)		(Duplicate)		(Duplicate)		(Duplicate)		(Duplicate)		(Duplicate)		(Duplicate)	
Semi-volatile Organic Compounds	Units													
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	µg/L	-	4.8 U	-	-	25 U	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	µg/L	-	4.8 U	-	-	25 U	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	µg/L	-	4.8 U	-	-	25 U	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	µg/L	-	4.8 U	-	-	25 U	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	µg/L	-	4.8 U	-	-	25 U	-	-	-	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
2-Chlorophenol	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	6.2	-	-	2.6	-	-	-	-	-	-	-	-
2-Methylphenol	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
2-Nitroaniline	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
2-Nitrophenol	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
3&4-Methylphenol	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	4.8 U	-	-	25 U	-	-	-	-	-	-	-	-
3-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	4.8 U	-	-	25 U	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
4-Chloroaniline	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
4-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
4-Nitrophenol	µg/L	-	4.8 U	-	-	25 U	-	-	-	-	-	-	-	-
Acenaphthene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Acenaphthylene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Acetophenone	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Anthracene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Atrazine	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Benzaldehyde	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Benzo(a)anthracene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Benzo(a)pyrene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Benzo(b)pyridine (Quinoline)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	1.9 U	-	-	9.8 U	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Caprolactam	µg/L	-	4.8 U	-	-	25 U	-	-	-	-	-	-	-	-
Carbazole	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Chrysene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Dibenzofuran	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Diethyl phthalate	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Dimethyl phthalate	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Fluoranthene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Fluorene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Hexachlorobenzene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Hexachlorobutadiene	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	µg/L	-	9.5 U	-	-	49 U	-	-	-	-	-	-	-	-
Hexachloroethane	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Isophorone	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Naphthalene	µg/L	-	0.19 U	-	-	1.8	-	-	-	-	-	-	-	-
Nitrobenzene	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Pentachlorophenol	µg/L	-	4.8 U	-	-	25 U	-	-	-	-	-	-	-	-
Phenanthrene	µg/L	-	0.19 U	-	-	0.98 U	-	-	-	-	-	-	-	-
Phenol	µg/L	-	0.95 U	-	-	4.9 U	-	-	-	-	-	-	-	-
Pyrene	µg/L	-	0.20	-	-	0.98 U	-	-	-	-	-	-	-	-
Pyridine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-J-7	PZ-J-7	PZ-K-3	PZ-K-3	PZ-K-3	PZ-K-3	PZ-K-4	PZ-K-4	PZ-K-6	PZ-K-6	PZ-L-2	PZ-L-3	PZ-L-3	PZ-L-4
Sample ID:	GW-060611-JH-46	GW-110311-JH-46	GW-111510-GW-002	GW-060611-JH-41	GW-060611-JH-42	GW-110311-JH-48	GW-111910-GW-009	GW-060211-JH-28	GW-111910-GW-015	GW-060211-JH-31	GW-091611-JH-018	GW-111510-GW-003	GW-053111-JH-04	GW-111910-GW-008
Sample Date:	6/6/2011	11/3/2011	11/15/2010	6/6/2011	6/6/2011	11/3/2011	11/19/2010	6/2/2011	11/19/2010	6/2/2011	9/16/2011	11/15/2010	5/31/2011	11/19/2010
Parameters	(Duplicate)				(Duplicate)									
Units														
Metals														
Aluminum	µg/L	-	200 U	-	-	-	200 U	-	-	-	-	-	-	-
Antimony	µg/L	-	10 U	-	-	-	10 U	-	-	-	-	-	-	-
Arsenic	µg/L	-	10 U	-	-	-	10 U	-	-	-	-	-	-	-
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/L	-	200 U	-	-	-	200 U	-	-	-	-	-	-	-
Beryllium	µg/L	-	5.0 U	-	-	-	5.0 U	-	-	-	-	-	-	-
Cadmium	µg/L	-	2.0 U	-	-	-	2.0 U	-	-	-	-	-	-	-
Calcium	µg/L	-	100000	-	-	-	120000	-	-	-	-	-	-	-
Chromium	µg/L	-	5.0 U	-	-	-	5.0 U	-	-	-	-	-	-	-
Cobalt	µg/L	-	7.0 U	-	-	-	7.0 U	-	-	-	-	-	-	-
Copper	µg/L	-	25 U	-	-	-	25 U	-	-	-	-	-	-	-
Iron	µg/L	-	13000	-	-	-	26000	-	-	-	-	-	-	-
Lead	µg/L	-	3.0 U	-	-	-	3.0 U	-	-	-	-	-	-	-
Magnesium	µg/L	-	24000	-	-	-	7300	-	-	-	-	-	-	-
Manganese	µg/L	-	270	-	-	-	980	-	-	-	-	-	-	-
Mercury	µg/L	-	0.20 U	-	-	-	0.20 U	-	-	-	-	-	-	-
Nickel	µg/L	-	40 U	-	-	-	40 U	-	-	-	-	-	-	-
Potassium	µg/L	-	5000 U	-	-	-	5000 U	-	-	-	-	-	-	-
Selenium	µg/L	-	5.0 U	-	-	-	5.0 U	-	-	-	-	-	-	-
Silver	µg/L	-	5.0 U	-	-	-	5.0 U	-	-	-	-	-	-	-
Sodium	µg/L	-	5000 U	-	-	-	5000 U	-	-	-	-	-	-	-
Thallium	µg/L	-	10 U	-	-	-	10 U	-	-	-	-	-	-	-
Vanadium	µg/L	-	7.0 U	-	-	-	7.0 U	-	-	-	-	-	-	-
Zinc	µg/L	-	50 U	-	-	-	50 U	-	-	-	-	-	-	-
PCBs														
Aroclor-1016 (PCB-1016)	µg/L	-	0.48 U	-	-	-	0.49 U	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	0.48 U	-	-	-	0.49 U	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	0.48 U	-	-	-	0.49 U	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	0.48 U	-	-	-	0.49 U	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	0.48 U	-	-	-	0.49 U	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	0.48 U	-	-	-	0.49 U	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	0.48 U	-	-	-	0.49 U	-	-	-	-	-	-	-
General Chemistry														
Cyanide (total)	µg/L	-	10 U	-	-	-	10 U	-	-	-	-	-	-	-

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-L-4	PZ-L-6	PZ-L-6B	PZ-L-6C	PZ-L-6D	PZ-L-6E	PZ-L-6E	PZ-M-2	PZ-M-2	PZ-M-3	PZ-M-3	PZ-M-3	PZ-M-3	PZ-M-3	PZ-M-4	
Sample ID:	GW-060211-JH-30	GW-022306-NK-070	GW-060211-JH-21	GW-060111-JH-15	GW-060111-JH-13	GW-060211-JH-17	GW-060211-JH-19	GW-060111-JH-09	GW-110111-JH-22	GW-111510-GW-004	GW-053111-JH-02	GW-053111-JH-03	GW-110111-JH-24	GW-110111-JH-26	GW-022306-NK-081	
Sample Date:	6/2/2011	2/23/2006	6/2/2011	6/1/2011	6/1/2011	6/2/2011	6/2/2011 (Duplicate)	6/1/2011	11/1/2011	11/15/2010	5/31/2011	5/31/2011 (Duplicate)	11/1/2011	11/1/2011 (Duplicate)	2/23/2006	
Parameters	Units															
Volatile Organic Compounds																
1,1,1-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,1,2-Trichloroethane	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,1-Dichloroethane	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,1-Dichloroethene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,2,4-Trichlorobenzene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	-	-	-	-	-	-	25 UJ	-	-	-	130 U	180 U	-
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,2-Dichloroethane	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,2-Dichloropropane	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
1,4-Dioxane	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	-	-	-	-	-	-	-	130 UJ	-	-	-	670 U	910 U	-
2-Hexanone	µg/L	-	-	-	-	-	-	-	-	130 UJ	-	-	-	670 U	910 U	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	-	-	-	-	-	-	130 UJ	-	-	-	670 U	910 U	-
Acetone	µg/L	-	-	-	-	-	-	-	-	130 UJ	-	-	-	670 U	910 U	-
Benzene	µg/L	-	-	-	-	-	-	-	-	65 J	-	-	-	180	170	-
Bromodichloromethane	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Bromoform	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Bromomethane (Methyl bromide)	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Carbon disulfide	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Carbon tetrachloride	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Chlorobenzene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Chloroethane	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Chloroform (Trichloromethane)	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Chloromethane (Methyl chloride)	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
cis-1,2-Dichloroethene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
cis-1,3-Dichloropropene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Cyclohexane	µg/L	-	-	-	-	-	-	-	-	21 J	-	-	-	420	450	-
Dibromochloromethane	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Ethylbenzene	µg/L	-	-	-	-	-	-	-	-	35 J	-	-	-	1000	910	-
Isopropyl benzene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Methyl acetate	µg/L	-	-	-	-	-	-	-	-	130 UJ	-	-	-	670 U	910 U	-
Methyl cyclohexane	µg/L	-	-	-	-	-	-	-	-	15 J	-	-	-	210	230	-
Methyl tert butyl ether (MTBE)	µg/L	-	-	-	-	-	-	-	-	63 UJ	-	-	-	330 U	450 U	-
Methylene chloride	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Styrene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Tetrachloroethene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Toluene	µg/L	-	-	-	-	-	-	-	-	150 J	-	-	-	390	370	-
trans-1,2-Dichloroethene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
trans-1,3-Dichloropropene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Trichloroethene	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Trichlorofluoromethane (CFC-11)	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Trifluorotrchloroethane (CFC-113)	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Vinyl chloride	µg/L	-	-	-	-	-	-	-	-	13 UJ	-	-	-	67 U	91 U	-
Xylenes (total)	µg/L	-	-	-	-	-	-	-	-	210 J	-	-	-	3900	3500	-
Volatile Organic Compounds - BTEX																
Benzene	µg/L	1.0 U	25	7.3	140	1.0 U	50	64	80	-	520	190	170	-	-	1.0 U
Ethylbenzene	ug/L	1.0 U	13	1.0 U	220	1.0 U	50	57	53	-	1300	1200	1200	-	-	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	1.0 U	6.7	1.0 U	34	1.0 U	9.8	11	180	-	470	410	390	-	-	0.26 J
Xylenes (total)	ug/L	2.0 U	120	2.0 U	230	2.0 U	33	37	310	-	3200	4600	4600	-	-	2.0 U

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-L-4	PZ-L-6	PZ-L-6B	PZ-L-6C	PZ-L-6D	PZ-L-6E	PZ-L-6E	PZ-M-2	PZ-M-2	PZ-M-3	PZ-M-3	PZ-M-3	PZ-M-3	PZ-M-3	PZ-M-4
Sample ID:	GW-060211-JH-30	GW-022306-NK-070	GW-060211-JH-21	GW-060111-JH-15	GW-060111-JH-13	GW-060211-JH-17	GW-060211-JH-19	GW-060111-JH-09	GW-110111-JH-22	GW-111510-GW-004	GW-053111-JH-02	GW-053111-JH-03	GW-110111-JH-24	GW-110111-JH-26	GW-022306-NK-081
Sample Date:	6/2/2011	2/23/2006	6/2/2011	6/1/2011	6/1/2011	6/2/2011	6/2/2011 (Duplicate)	6/1/2011	11/1/2011	11/15/2010	5/31/2011	5/31/2011 (Duplicate)	11/1/2011	11/1/2011 (Duplicate)	2/23/2006
Parameters	Units														
Semi-volatile Organic Compounds															
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
2,4,5-Trichlorophenol	µg/L	-	-	-	-	-	-	-	60 U	-	-	-	49 U	49 U	-
2,4,6-Trichlorophenol	µg/L	-	-	-	-	-	-	-	60 U	-	-	-	49 U	49 U	-
2,4-Dichlorophenol	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
2,4-Dimethylphenol	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
2,4-Dinitrophenol	µg/L	-	-	-	-	-	-	-	60 U	-	-	-	49 U	49 U	-
2,4-Dinitrotoluene	µg/L	-	-	-	-	-	-	-	60 U	-	-	-	49 U	49 U	-
2,6-Dinitrotoluene	µg/L	-	-	-	-	-	-	-	60 U	-	-	-	49 U	49 U	-
2-Chloronaphthalene	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
2-Chlorophenol	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
2-Methylnaphthalene	µg/L	-	-	-	-	-	-	-	430	-	-	-	71	79	-
2-Methylphenol	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
2-Nitroaniline	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
2-Nitrophenol	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
3&4-Methylphenol	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
3,3'-Dichlorobenzidine	µg/L	-	-	-	-	-	-	-	60 U	-	-	-	49 U	49 U	-
3-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
4,6-Dinitro-2-methylphenol	µg/L	-	-	-	-	-	-	-	60 U	-	-	-	49 U	49 U	-
4-Bromophenyl phenyl ether	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
4-Chloro-3-methylphenol	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
4-Chloroaniline	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
4-Chlorophenyl phenyl ether	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
4-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
4-Nitrophenol	µg/L	-	-	-	-	-	-	-	60 U	-	-	-	49 U	49 U	-
Acenaphthene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Acenaphthylene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Acetophenone	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Anthracene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Atrazine	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Benzaldehyde	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Benzo(a)anthracene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Benzo(a)pyrene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Benzo(b)fluoranthene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Benzo(b)pyridine (Quinoline)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Biphenyl (1,1-Biphenyl)	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
bis(2-Chloroethoxy)methane	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
bis(2-Chloroethyl)ether	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	-	-	-	-	-	-	24 U	-	-	-	19 U	19 U	-
Butyl benzylphthalate (BBP)	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Caprolactam	µg/L	-	-	-	-	-	-	-	60 U	-	-	-	49 U	49 U	-
Carbazole	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	25	26	-
Chrysene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Dibenzofuran	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Diethyl phthalate	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Dimethyl phthalate	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Di-n-butylphthalate (DBP)	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Di-n-octyl phthalate (DnOP)	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Fluoranthene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Fluorene	µg/L	-	-	-	-	-	-	-	6.1	-	-	-	1.9 U	1.9 U	-
Hexachlorobenzene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Hexachlorobutadiene	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Hexachlorocyclopentadiene	µg/L	-	-	-	-	-	-	-	120 U	-	-	-	97 U	97 U	-
Hexachloroethane	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Isophorone	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Naphthalene	µg/L	-	-	-	-	-	-	-	330	-	-	-	240	300	-
Nitrobenzene	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
N-Nitrosodi-n-propylamine	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
N-Nitrosodiphenylamine	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Pentachlorophenol	µg/L	-	-	-	-	-	-	-	60 U	-	-	-	49 U	49 U	-
Phenanthrene	µg/L	-	-	-	-	-	-	-	12	-	-	-	1.9 U	1.9 U	-
Phenol	µg/L	-	-	-	-	-	-	-	12 U	-	-	-	9.7 U	9.7 U	-
Pyrene	µg/L	-	-	-	-	-	-	-	2.4 U	-	-	-	1.9 U	1.9 U	-
Pyridine	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-L-4	PZ-L-6	PZ-L-6B	PZ-L-6C	PZ-L-6D	PZ-L-6E	PZ-L-6E	PZ-M-2	PZ-M-2	PZ-M-3	PZ-M-3	PZ-M-3	PZ-M-3	PZ-M-3	PZ-M-4	
Sample ID:	GW-060211-JH-30	GW-022306-NK-070	GW-060211-JH-21	GW-060111-JH-15	GW-060111-JH-13	GW-060211-JH-17	GW-060211-JH-19	GW-060111-JH-09	GW-110111-JH-22	GW-111510-GW-004	GW-053111-JH-02	GW-053111-JH-03	GW-110111-JH-24	GW-110111-JH-26	GW-022306-NK-081	
Sample Date:	6/2/2011	2/23/2006	6/2/2011	6/1/2011	6/1/2011	6/2/2011	6/2/2011 (Duplicate)	6/1/2011	11/1/2011	11/15/2010	5/31/2011	5/31/2011 (Duplicate)	11/1/2011	11/1/2011 (Duplicate)	2/23/2006	
Parameters	Units															
Metals																
Aluminum	µg/L	-	-	-	-	-	-	-	-	200 U	-	-	-	200 U	200 U	-
Antimony	µg/L	-	-	-	-	-	-	-	-	10 U	-	-	-	10 U	10 U	-
Arsenic	µg/L	-	-	-	-	-	-	-	-	10 U	-	-	-	10 U	10 U	-
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/L	-	-	-	-	-	-	-	-	200 U	-	-	-	200 U	200 U	-
Beryllium	µg/L	-	-	-	-	-	-	-	-	5.0 U	-	-	-	5.0 U	5.0 U	-
Cadmium	µg/L	-	-	-	-	-	-	-	-	2.0 U	-	-	-	2.0 U	2.0 U	-
Calcium	µg/L	-	-	-	-	-	-	-	-	440000	-	-	-	170000	160000	-
Chromium	µg/L	-	-	-	-	-	-	-	-	5.0 U	-	-	-	5.0 U	5.0 U	-
Cobalt	µg/L	-	-	-	-	-	-	-	-	7.0 U	-	-	-	7.0 U	7.0 U	-
Copper	µg/L	-	-	-	-	-	-	-	-	25 U	-	-	-	25 U	25 U	-
Iron	µg/L	-	-	-	-	-	-	-	-	100 U	-	-	-	9300	8800	-
Lead	µg/L	-	-	-	-	-	-	-	-	6.3	-	-	-	3.0 U	3.0 U	-
Magnesium	µg/L	-	-	-	-	-	-	-	-	30000	-	-	-	9400	9900	-
Manganese	µg/L	-	-	-	-	-	-	-	-	93	-	-	-	1700	1600	-
Mercury	µg/L	-	-	-	-	-	-	-	-	0.20 U	-	-	-	0.20 U	0.20 U	-
Nickel	µg/L	-	-	-	-	-	-	-	-	40 U	-	-	-	40 U	40 U	-
Potassium	µg/L	-	-	-	-	-	-	-	-	7300	-	-	-	5000 U	5000 U	-
Selenium	µg/L	-	-	-	-	-	-	-	-	5.0 U	-	-	-	5.0 U	5.0 U	-
Silver	µg/L	-	-	-	-	-	-	-	-	5.0 U	-	-	-	5.0 U	5.0 U	-
Sodium	µg/L	-	-	-	-	-	-	-	-	16000	-	-	-	5000 U	5000 U	-
Thallium	µg/L	-	-	-	-	-	-	-	-	10 U	-	-	-	10 U	10 U	-
Vanadium	µg/L	-	-	-	-	-	-	-	-	7.0 U	-	-	-	7.0 U	7.0 U	-
Zinc	µg/L	-	-	-	-	-	-	-	-	50 U	-	-	-	50 U	50 U	-
PCBs																
Aroclor-1016 (PCB-1016)	µg/L	-	-	-	-	-	-	-	-	0.48 U	-	-	-	2.4 U	2.4 U	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	-	-	-	-	-	-	0.48 U	-	-	-	2.4 U	2.4 U	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	-	-	-	-	-	-	0.48 U	-	-	-	2.4 U	2.4 U	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	-	-	-	-	-	-	0.48 U	-	-	-	2.4 U	2.4 U	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	-	-	-	-	-	-	0.48 U	-	-	-	2.4 U	2.4 U	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	-	-	-	-	-	-	0.48 U	-	-	-	2.4 U	2.4 U	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	-	-	-	-	-	-	0.48 U	-	-	-	2.4 U	2.4 U	-
General Chemistry																
Cyanide (total)	µg/L	-	-	-	-	-	-	-	-	25	-	-	-	10 U	10 U	-

Notes:
 J - Estimated concentration.
 R - Rejected.
 U - Not detected at the associated reporting limit.
 UJ - Not detected; associated reporting limit is estimated.

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-M-4A	PZ-M-4A	PZ-M-4A	PZ-M-8-9	PZ-N-2	PZ-N-2	PZ-N-3	PZ-N-3	PZ-N-4	PZ-N-4	PZ-O-4-5	PZ-O-4-5	
Sample ID:	GW-111910-GW-010	GW-060311-JH-32	GW-110111-JH-28	GW-022306-NR-071	GW-060111-JH-11	GW-110211-JH-30	GW-111510-GW-005	GW-053111-JH-01	GW-111910-GW-011	GW-060311-JH-39	GW-022306-NK-082	GW-060311-JH-37	
Sample Date:	11/19/2010	6/3/2011	11/1/2011	2/23/2006	6/1/2011	11/2/2011	11/15/2010	5/31/2011	11/19/2010	6/3/2011	2/23/2006	6/3/2011	
Parameters	Units												
Volatile Organic Compounds													
1,1,1-Trichloroethane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,1,2,2-Tetrachloroethane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,1,2-Trichloroethane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,1-Dichloroethane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,1-Dichloroethene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,2,4-Trichlorobenzene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	-	-	2.0 U	-	-	2.0 U	-	-	-	-	-	
1,2-Dibromoethane (Ethylene dibromide)	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,2-Dichlorobenzene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,2-Dichloroethane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,2-Dichloropropane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,3-Dichlorobenzene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,4-Dichlorobenzene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
1,4-Dioxane	µg/L	-	-	-	-	-	-	-	-	-	-	-	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	-	-	10 U	-	-	10 U	-	-	-	-	-	
2-Hexanone	µg/L	-	-	10 U	-	-	10 U	-	-	-	-	-	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	-	-	10 U	-	-	10 U	-	-	-	-	-	
Acetone	µg/L	-	-	10 U	-	-	10 U	-	-	-	-	-	
Benzene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Bromodichloromethane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Bromoform	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Bromomethane (Methyl bromide)	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Carbon disulfide	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Carbon tetrachloride	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Chlorobenzene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Chloroethane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Chloroform (Trichloromethane)	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Chloromethane (Methyl chloride)	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
cis-1,2-Dichloroethene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
cis-1,3-Dichloropropene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Cyclohexane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Dibromochloromethane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Dichlorodifluoromethane (CFC-12)	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Ethylbenzene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Isopropyl benzene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Methyl acetate	µg/L	-	-	10 U	-	-	10 U	-	-	-	-	-	
Methyl cyclohexane	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Methyl tert butyl ether (MTBE)	µg/L	-	-	5.0 U	-	-	5.0 U	-	-	-	-	-	
Methylene chloride	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Styrene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Tetrachloroethene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Toluene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
trans-1,2-Dichloroethene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
trans-1,3-Dichloropropene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Trichloroethene	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Trichlorofluoromethane (CFC-11)	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Trifluorotrchloroethane (CFC-113)	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Vinyl chloride	µg/L	-	-	1.0 U	-	-	1.0 U	-	-	-	-	-	
Xylenes (total)	µg/L	-	-	2.0 U	-	-	2.0 U	-	-	-	-	-	
Volatile Organic Compounds - BTEX													
Benzene	µg/L	1.0 U	1.0 U	-	1.0 U	1.0 U	-	1 U	1.0 U	1.0 U	1.0 U	7.6	3.1
Ethylbenzene	ug/L	1.0 U	1.0 U	-	1.0 U	1.0 U	-	0.55 J	1.0 U	2.4	1.9	43	14
Methyl tert butyl ether (MTBE)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	1.0 U	1.0 U	-	1.0 U	1.0 U	-	0.99 J	1.0 U	1.0 U	1.0 U	8.3	2.9
Xylenes (total)	ug/L	2.0 U	2.0 U	-	0.47 J	2.0 U	-	2.1	2.0 U	4.2	2.0 U	25	4.6

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-M-4A	PZ-M-4A	PZ-M-4A	PZ-M-8-9	PZ-N-2	PZ-N-2	PZ-N-3	PZ-N-3	PZ-N-4	PZ-N-4	PZ-O-4-5	PZ-O-4-5
Sample ID:	GW-111910-GW-010	GW-060311-JH-32	GW-110111-JH-28	GW-022306-NR-071	GW-060111-JH-11	GW-110211-JH-30	GW-111510-GW-005	GW-053111-JH-01	GW-111910-GW-011	GW-060311-JH-39	GW-022306-NK-082	GW-060311-JH-37
Sample Date:	11/19/2010	6/3/2011	11/1/2011	2/23/2006	6/1/2011	11/2/2011	11/15/2010	5/31/2011	11/19/2010	6/3/2011	2/23/2006	6/3/2011
Parameters	Units											
Semi-volatile Organic Compounds												
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/L	-	-	-	-	-	-	-	-	-	-	-
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
2,4,5-Trichlorophenol	µg/L	-	-	4.8 U	-	-	4.8 U	-	-	-	-	-
2,4,6-Trichlorophenol	µg/L	-	-	4.8 U	-	-	4.8 U	-	-	-	-	-
2,4-Dichlorophenol	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
2,4-Dimethylphenol	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
2,4-Dinitrophenol	µg/L	-	-	4.8 U	-	-	4.8 U	-	-	-	-	-
2,4-Dinitrotoluene	µg/L	-	-	4.8 U	-	-	4.8 U	-	-	-	-	-
2,6-Dinitrotoluene	µg/L	-	-	4.8 U	-	-	4.8 U	-	-	-	-	-
2-Chloronaphthalene	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
2-Chlorophenol	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
2-Methylnaphthalene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
2-Methylphenol	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
2-Nitroaniline	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
2-Nitrophenol	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
3&4-Methylphenol	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
3,3'-Dichlorobenzidine	µg/L	-	-	4.8 U	-	-	4.8 U	-	-	-	-	-
3-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
4,6-Dinitro-2-methylphenol	µg/L	-	-	4.8 U	-	-	4.8 U	-	-	-	-	-
4-Bromophenyl phenyl ether	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
4-Chloro-3-methylphenol	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
4-Chloroaniline	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
4-Chlorophenyl phenyl ether	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
4-Methylphenol	µg/L	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	µg/L	-	-	1.9 U	-	-	1.9 U	-	-	-	-	-
4-Nitrophenol	µg/L	-	-	4.8 U	-	-	4.8 U	-	-	-	-	-
Acenaphthene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Acenaphthylene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Acetophenone	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Anthracene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Atrazine	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Benzaldehyde	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Benzo(a)anthracene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Benzo(a)pyrene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Benzo(b)fluoranthene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Benzo(b)pyridine (Quinoline)	µg/L	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Benzo(k)fluoranthene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Biphenyl (1,1-Biphenyl)	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
bis(2-Chloroethoxy)methane	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
bis(2-Chloroethyl)ether	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	-	-	1.9	-	-	1.9 U	-	-	-	-	-
Butyl benzylphthalate (BBP)	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Caprolactam	µg/L	-	-	4.8 U	-	-	4.8 U	-	-	-	-	-
Carbazole	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Chrysene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Dibenz(a,h)anthracene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Dibenzofuran	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Diethyl phthalate	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Dimethyl phthalate	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Di-n-butylphthalate (DBP)	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Fluoranthene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Fluorene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Hexachlorobenzene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Hexachlorobutadiene	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Hexachlorocyclopentadiene	µg/L	-	-	9.5 U	-	-	9.6 U	-	-	-	-	-
Hexachloroethane	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Isophorone	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Naphthalene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Nitrobenzene	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
N-Nitrosodi-n-propylamine	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
N-Nitrosodiphenylamine	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Pentachlorophenol	µg/L	-	-	4.8 U	-	-	4.8 U	-	-	-	-	-
Phenanthrene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Phenol	µg/L	-	-	0.95 U	-	-	0.96 U	-	-	-	-	-
Pyrene	µg/L	-	-	0.19 U	-	-	0.19 U	-	-	-	-	-
Pyridine	µg/L	-	-	-	-	-	-	-	-	-	-	-

Table 2

Analytical Results Summary - Groundwater
Former East Chicago Refinery

Sample Location:	PZ-M-4A	PZ-M-4A	PZ-M-4A	PZ-M-8-9	PZ-N-2	PZ-N-2	PZ-N-3	PZ-N-3	PZ-N-4	PZ-N-4	PZ-O-4-5	PZ-O-4-5
Sample ID:	GW-111910-GW-010	GW-060311-JH-32	GW-110111-JH-28	GW-022306-NR-071	GW-060111-JH-11	GW-110211-JH-30	GW-111510-GW-005	GW-053111-JH-01	GW-111910-GW-011	GW-060311-JH-39	GW-022306-NK-082	GW-060311-JH-37
Sample Date:	11/19/2010	6/3/2011	11/1/2011	2/23/2006	6/1/2011	11/2/2011	11/15/2010	5/31/2011	11/19/2010	6/3/2011	2/23/2006	6/3/2011
Parameters	Units											
Metals												
Aluminum	µg/L	-	-	200 U	-	-	400	-	-	-	-	-
Antimony	µg/L	-	-	10 U	-	-	10 U	-	-	-	-	-
Arsenic	µg/L	-	-	10 U	-	-	10 U	-	-	-	-	-
Arsenic (dissolved)	µg/L	-	-	-	-	-	-	-	-	-	-	-
Barium	µg/L	-	-	200 U	-	-	200 U	-	-	-	-	-
Beryllium	µg/L	-	-	5.0 U	-	-	5.0 U	-	-	-	-	-
Cadmium	µg/L	-	-	2.0 U	-	-	2.0 U	-	-	-	-	-
Calcium	µg/L	-	-	69000	-	-	200000	-	-	-	-	-
Chromium	µg/L	-	-	5.0 U	-	-	5.0 U	-	-	-	-	-
Cobalt	µg/L	-	-	7.0 U	-	-	7.0 U	-	-	-	-	-
Copper	µg/L	-	-	25 U	-	-	25 U	-	-	-	-	-
Iron	µg/L	-	-	490	-	-	7200	-	-	-	-	-
Lead	µg/L	-	-	3.0 U	-	-	3.0 U	-	-	-	-	-
Magnesium	µg/L	-	-	5700	-	-	18000	-	-	-	-	-
Manganese	µg/L	-	-	150	-	-	1500	-	-	-	-	-
Mercury	µg/L	-	-	0.20 U	-	-	0.20 U	-	-	-	-	-
Nickel	µg/L	-	-	40 U	-	-	40 U	-	-	-	-	-
Potassium	µg/L	-	-	5000 U	-	-	5000 U	-	-	-	-	-
Selenium	µg/L	-	-	5.0 U	-	-	6.0	-	-	-	-	-
Silver	µg/L	-	-	5.0 U	-	-	5.0 U	-	-	-	-	-
Sodium	µg/L	-	-	5000 U	-	-	6600	-	-	-	-	-
Thallium	µg/L	-	-	10 U	-	-	10 U	-	-	-	-	-
Vanadium	µg/L	-	-	7.0 U	-	-	7.0 U	-	-	-	-	-
Zinc	µg/L	-	-	50 U	-	-	50 U	-	-	-	-	-
PCBs												
Aroclor-1016 (PCB-1016)	µg/L	-	-	0.48 U	-	-	0.48 U	-	-	-	-	-
Aroclor-1221 (PCB-1221)	µg/L	-	-	0.48 U	-	-	0.48 U	-	-	-	-	-
Aroclor-1232 (PCB-1232)	µg/L	-	-	0.48 U	-	-	0.48 U	-	-	-	-	-
Aroclor-1242 (PCB-1242)	µg/L	-	-	0.48 U	-	-	0.48 U	-	-	-	-	-
Aroclor-1248 (PCB-1248)	µg/L	-	-	0.48 U	-	-	0.48 U	-	-	-	-	-
Aroclor-1254 (PCB-1254)	µg/L	-	-	0.48 U	-	-	0.48 U	-	-	-	-	-
Aroclor-1260 (PCB-1260)	µg/L	-	-	0.48 U	-	-	0.48 U	-	-	-	-	-
General Chemistry												
Cyanide (total)	µg/L	-	-	10 U	-	-	10 U	-	-	-	-	-

Notes:

- J - Estimated concentration.
- R - Rejected.
- U - Not detected at the associated reporting limit.
- UJ - Not detected; associated reporting limit is estimated.